



LEAD work by Fred C. Irwin adds charm to this bay window; cottage located at Glen Head, Long Island, N.Y.

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AMERICAN BUILDER

and Building Age

NAME REGISTERED U. S. PATENT OFFICE AND CANADIAN REGISTRAR OF TRADE MARKS

DECEMBER, 1935

57th Year

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How 4-SQUARE Lumber is Helping the Contractor to HOLD THE FORT

Never was there a time when the subject of home received more publicity—nor a period when so many new ones were needed.

Magazines are filled to overflowing with facts and figures which prove the desirability of home ownership—articles and illustrations to inspire Mr. John Q. Citizen to proceed at once with a laudable undertaking while building material prices are reasonable, financing is readily obtainable and labor is plentiful.

There is much talk, too, about "prefabricated" homes and a great deal of experimenting is being done in this direction, but the average American citizen is still well grounded in the belief that good lumber and good workmanship on the job can produce the kind of a home that he likes to live in and can afford to buy. He instinctively feels that local workmen should play an important part in helping him to achieve his end.

"Prefabricated" homes may or may not be the answer. Time alone will tell. However, the fact remains that Weyerhaeuser 4-Square "Prefabricated" Lumber* is here today and is holding the fort for contractors and building craftsmen, because it provides better construction at lower final cost with lumber that goes into construction with minimum waste. It enables the workman to do a better job—to gain a fine respect for his ability—to satisfy his customers and in turn create new ones.

Everywhere you go you'll find contractors, carpenters, and home owners themselves singing the praises of this improved lumber at no higher cost—precision cut lumber that is made and guaranteed by Weyerhaeuser, the world's largest manufacturer of quality building materials.

*"Prefabricated" lumber means lumber that is trimmed square to exact length, end-matched flooring, siding and sheathing, dimension lumber with 1 inch and 1 foot cutting lines as accurate as the calibrations on your square.



Send for a free copy of our booklet on Weyerhaeuser 4-SQUARE Lumber

WEYERHAEUSER SALES COMPANY FIRST NATIONAL BANK BUILDING
SAINT PAUL • MINNESOTA

Government and Business

A VERY substantial improvement in general business has occurred throughout the four months since July. Railroad freight loadings are the best single measure of the total volume of all business done, because they reflect both the *production* and the *distribution* of all kinds of commodities. They normally increase 15 per cent between July and October. During this period in 1935 they increased 29 per cent.

To what has the recent marked improvement in general business been due? This is a very important question. Some claim the improvement has been due to government "recovery" policies; some that it has been due to natural economic developments—principally to the efforts of all business men, large and small, to increase their operating efficiency, their sales and their production.

The question is so important because public opinion regarding the effect of past and present government economic policies will largely determine the government policies affecting business followed in future.

THE recent improvement in general business is not without precedent even during the present depression. Total production and distribution of all commodities, as measured by railroad loadings, increased 30 per cent between July and October, 1932—slightly more relatively than during the same period in 1935. They increased 24 per cent between March, 1933, (the month of the banking "holiday") and June, 1933, before any of the "New Deal" legislation was in effect.

The American Builder strongly believes that such government policies as NRA, huge expenditures for "made-work", and competition with private business have hindered, and are still hindering, recovery and re-employment. It believes, also, however, that legislation such as the National Housing Act to stimulate investment of private capital is helping recovery. The great increase of private expenditures for remodelling and new construction of housing is one of the most important factors in the current improvement of general business.

BELIEVING thus, this paper emphatically endorses the resolution recently adopted by the National Retail Lumber Dealers' Association demanding that the government "get out and stay out" of the housing field, and "permit private industry to proceed in an orderly manner and without fear or threat of governmental competition." Frank Carnahan, secretary of the Association, undoubtedly is right in expressing opposition to a reported project for legislation to subsidize home-building with government money at an interest rate of 3 per cent. This would drive private capital from the home-building field; and home-building can be fully revived only by huge investments of private capital.

The less the government interferes, whether with regimentation, subsidies or otherwise, with the efforts of business men, large and small, to revive business, the sooner will business be fully revived.

Samuel O. Dunn,
SAMUEL O. DUNN,
CHAIRMAN,
AMERICAN BUILDER PUBLISHING CORPORATION
SIMMONS-BOARDMAN PUBLISHING CORPORATION

AN EXTRA STEP



If you took only a casual look at the powdery gray material in these tanks, you might think it was cement. But you couldn't make concrete with it. It's "raw-mix"—the ground raw material from which cement is made.

Many more steps must be taken—testing, blending, burning, more grinding—before Atlas and Universal portland cements are produced.

And after that we take another step, not in the specifications. That is the step of working with you in the use of these cements.

We are not construction experts and don't pretend to be. We are cement makers, who have had opportunity over a number of years to gather considerable material on cement performance. Sometimes we can find in that material certain information that is helpful on a particular concrete job.

Any time you have a concrete problem on which we can help in this way, we'd like to hear from you. No charge, of course, because this extra step is a regular step in the making of every barrel of Universal and Atlas cements that go to make good concrete. Try us out!

239

UNIVERSAL ATLAS CEMENT Co.

United States Steel  Corporation Subsidiary

208 SOUTH LA SALLE STREET, CHICAGO

AMERICAN BUILDER AND BUILDING AGE

U. S. Should Quit Housing Field

A RESOLUTION adopted on November 18 by the executive committee of the National Retail Lumber Dealers' Association serves notice on the New Dealers at Washington that government intrusion into the home building field is hurtful to private business and discouraging to private home ownership, and should be stopped. Introduced by seven *Whereases* reciting the well known confusion, waste, delay and futility "of the thirty-seven government bureaus now experimenting in the housing field," this committee, composed of intelligent and public spirited business men, adopted the following:

"Resolved, That the National Retail Lumber Dealers' Association express to the President of the United States its most earnest request that the government make immediate plans to retire from the housing field at once, to get out and stay out, and permit private industry to proceed in an orderly manner and without fear or threat of governmental competition and thereby assure the buying public that it may, through the National Housing Act, proceed to buy homes in confidence and with assurance that its investment will not be depreciated by unforeseen governmental subsidies which are causing many prospective home owners to postpone construction, anticipating the possibility of governmental gratuities."

The spirit and purpose of this resolution will be endorsed, we believe, by most thoughtful men of the building industry. With a ten-year program of private home building ahead, averaging 400,000 family units per year—an annual business of Two Billion Dollars—any government housing program, however large, is small in comparison. Yet the *threat* of government competition and interference in the home building field will imperil the entire private home building structure. Not only that, it likewise endangers all existing values in home ownership. The President and members of Congress should give serious thought to these matters, so that private home building on a nation-wide scale can go forward unafraid.

Frank Carnahan, energetic secretary of the National, has asked the assistance of all branches of the building industry in the fight against this growing menace. In a recent letter to regional and state lumber dealer association secretaries he said:

"I am frankly of the opinion that we had better make immediate plans to oppose with everything we have the

continuation of these government housing projects. I don't know to what extent I will be able to get the co-operation of the other building groups. We have been working in opposition to this program for some time. The other building groups are now beginning to wake up to the serious effect the government's subsidizing activities may have on the regular building program which is developing. The rumor has come to me that someone is going to propose at the next session of Congress legislation whereby the government would subsidize home building, and offer interest rates as low as 3 per cent. A public announcement to this effect would unquestionably have a damaging effect on the program now going forward under the National Housing Act, and would without doubt put a damper on many good prospects."

TWO YEARS MORE, AT LEAST

THE operation of Title I of the National Housing Act has been helpful both to property owners and to the men of the building industry. The repair and remodeling of buildings under the provisions of this part of the Act have gone steadily forward. More than \$213,000,000 have been loaned for building improvements under the FHA credit guarantee, of which sum not one penny has been lost by any loaning institution. Local fix-up and build-up campaigns have been conducted in more than 4,000 communities, and it is estimated that over one billion dollars of repair, postponed maintenance, and modernization jobs have resulted from this nation-wide publicity, buying stimulus, and released credit. Man-hours of labor sufficient to give ten million men employment for one year have been utilized in this work, created by and under Title I of the National Housing Act.

Unless the next Congress moves to extend the life of Title I, that part of the Act expires on April 1, 1936. No more loans for repairs, rehabilitation or modernizing will be guaranteed by FHA after that time; and all publicity and promotional efforts by the Administration in favor of the repairing of homes, income properties or industrial plants will stop. Just as this work is attaining the real volume of \$8,500,000 per week under FHA sponsorship it will be cut loose and told to shift for itself.

Every reader of this publication who favors going ahead with modernization and repairs should write his Congressman to work for an amendment to Title I of the

National Housing Act to extend its life at least two years more.

Some have argued that repairs and rehabilitation are only a temporary "stop gap" between times of active new building, and that, therefore, Title I would serve but a limited function.

In our opinion, the great opportunity for the modernization of buildings lies ahead. The activity so far, gratifying as it has been, is a mere fraction of what the building industry will experience when property owners find themselves actually facing the competition of new structures planned, built and equipped to embody the revolutionary style changes and improvements of the past few years. So far property owners have here and there yielded to the impulse to modernize because of personal reasons or because of the promise of increased income. However, looking forward another year, we see new construction going forward in volume and property owners faced with the absolute necessity of restyling and re-equipping their old buildings to meet the competition of the new.

Modernization in the past year and a half has been 75 per cent talk. In 1936 and 1937 it will become 75 per cent orders and action. Volume modernization will go along with volume new construction. Low cost installment financing under FHA regulations is essential to this program. Not only every building industry man, but every business man in any line, should join the campaign to extend the provisions of Title I of the National Housing Act another two years.

The original act made an appropriation sufficient to guarantee 20 per cent of private loans made under Title I in an amount up to one billion dollars. That limit has not yet been approached in spite of the great amount of building repair activity that FHA has engendered. No additional appropriation is required; in fact, the percentage of defaults is so small that very little of the guarantee fund will ever be called out. Write your Congressman today to support the proposed extension of Title I.

ENCOURAGING FIGURES

HOME building is looked upon by many as the country's best index of returning prosperity. Study the accompanying chart and notice the dramatic upturn this year in the monthly residential contract figures from the dead level of the three depression years 1932, '33 and '34. It is evident that the total for 1935 will easily double that of last year. And conditions are favorable to still another doubling of residential building in the year ahead.

Stewart McDonald, Federal Housing Administrator, is numbered among the optimists on this subject of home building outlook, and his cheerfulness is contagious, because in his position he has *all the facts*.

"United States is definitely going to have a big residential construction boom next year," he stated recently following a call upon President Roosevelt at the White House.

To support his prediction, McDonald said that residential construction for the last two months was 100 per

cent greater than for the same period last year and the highest since 1931. He added that the volume is constantly increasing, and said:

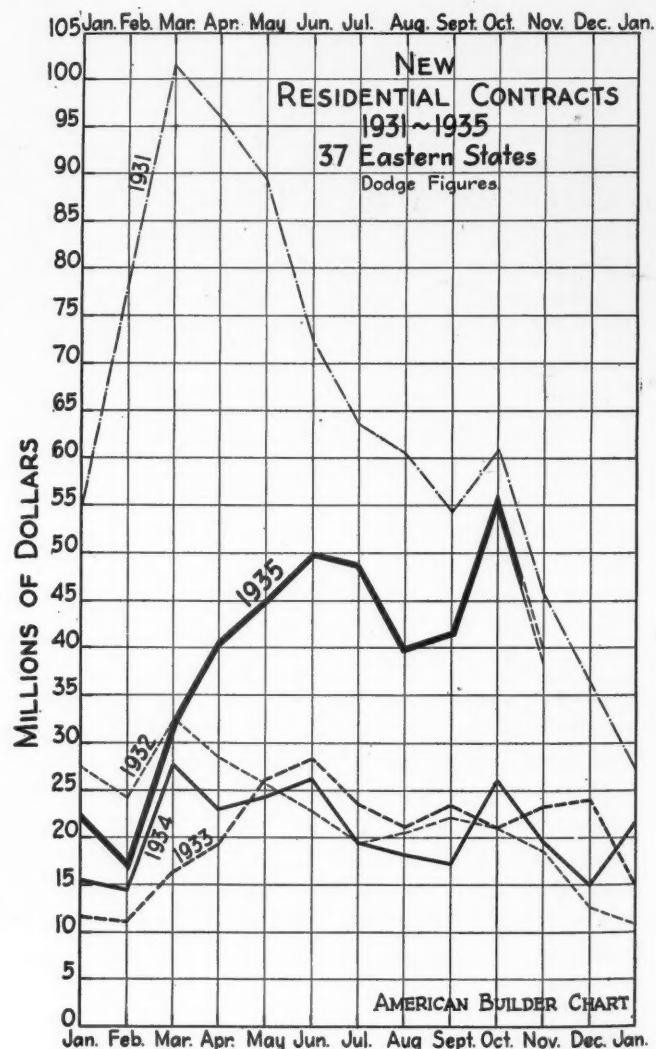
"Money is easier, there is a shortage of housing, costs are coming down, and the fear of panic is over. People want the convenience and freedom from labor which a modern home assures them."

"When we started the Federal Housing Administration you could not blow a mortgage paper out of a bank safe with a stick of dynamite. Now the banks are competing with one another for the business."

Further substantial gains in residential building are indicated by reports covering the first half of November, according to the F. W. Dodge Corporation. The volume of residential construction undertaken in this period was \$19,478,000 in the area east of the Rocky Mountains. This total is about double the volume of the same period last year.

"The gain is no flash in the pan," the report added. "It will continue, because the improvement is well grounded. Investment money is flowing into home building more freely than it has in four years."

"For the entire year, 1935, the volume of residential building in the 37 eastern states should run between \$460,000,000 and \$475,000,000, against only \$249,000,-000 for 1934, which was the lowest volume in more than a generation."





©PHOTO HOUSES, N. Y.

Latest in prefabricated modernism in American "Motohome" erected in Cambridge, Mass. More than 200,000 visitors have inspected this house.

Annual Christmas Portfolio of Home Designs

INDEX TO 1935 HOUSE DESIGNS AND PLANS

ALL HOUSE DESIGNS AND FLOOR PLANS published in the AMERICAN BUILDER during the year 1935, including December, are listed and classified in this index. Date and page number on which each house appears are given opposite name of type, such as Colonial, English, Spanish, etc.

**I STORY
HOUSES**

2 ROOM 3 ROOM 4 ROOM 5 ROOM	CABIN —Apr., page 69. LOW COST COTTAGES —Apr., page 71; July, page 37; Nov., page 35. CABINS —Mar., page 41; Apr., page 68. LOW COST COTTAGES —Jan., page 30; July, page 37. COLONIAL —Jan., page 28; Mar., page 39. SPANISH —Aug., page 52. FRENCH —June, page 48; July, pages 34, 35. MODERN —Nov., page 48. CABINS —Mar., page 41; Apr., pages 68, 69; Dec., page 41. LOW COST COTTAGES —Jan., pages 30, 31; Apr., page 56; July, page 37. COLONIAL —Feb., page 37; Apr., page 61. ENGLISH —Sept., page 41. SPANISH —Mar., page 34. FRENCH —Jan., page 25; June, page 49. MODERN —Oct., pages 44, 47; Dec., page 29. LOW COST COTTAGES —July, page 33; Dec., page 33.

**1½ STORY
HOUSES**

5 ROOM 6 ROOM 7 ROOM 8 OR MORE ROOMS	COLONIAL —Mar., page 39; Apr., page 79; May, page 45; June, page 47; July, pages 30, 31; Sept., page 35; Oct., page 59; Nov., page 34. SPANISH —Feb., page 41. LOW COST COTTAGES —Nov., pages 27, 35. COLONIAL —Jan., page 28; Mar., page 35; Apr., pages 60, 67; May, page 44; June, page 46; July, page 39; Aug., pages 25, 30, 31; Sept., pages 36, 38, 40, 43; Oct., page 54; Nov., page 31; Dec., pages 31, 38. ENGLISH —Apr., pages 50, 66; Aug., page 33; Dec., page 26. FRENCH & NORMAN —May, page 43. LOW COST COTTAGES —Apr., page 70; Nov., page 34.

**2 STORY
HOUSES**

4 ROOM 5 ROOM 6 ROOM 7 ROOM 8 OR MORE ROOMS	MODERN —Aug., page 28. COLONIAL —June, page 30. ENGLISH —Feb., page 33. MODERN —May, page 31; July page 26; Aug., page 28. COLONIAL —Jan., page 35; Mar., pages 62, 63; Apr., pages 53, 74; May, page 40; Aug., page 27; Sept., page 31; Oct., page 39; Nov., page 32; Dec., page 35. ENGLISH —Nov., pages 32, 39. MODERN —May, page 29; Oct., page 43. COLONIAL —Jan., page 33; Mar., page 37; Apr., page 72; June, pages 43, 44; Dec., pages 30, 36, 37. ENGLISH —Apr., page 62; June, page 33. MODERN —May, page 38.

**MISCELLANEOUS
DESIGNS**

Apartments—Feb., pages 42, 43; July, pages 42-45, 47, 48; Sept., page 47; Nov., pages 23, 43; **Farm Buildings**—Feb., page 45; Mar., page 49; Apr., page 93; **Home Above Garage**—Feb., page 36; **Houses That Grow**—Jan., pages 24-26, 30, 31; **Office**—July, page 41; **Row Houses**—Aug., pages 44, 45; Sept., page 33; **School**—Mar., page 47; **Stores**—Jan., page 37; June, page 53; Aug., page 43; Sept., pages 46, 53; Oct., pages 67-69.

CHRISTMAS
PORTFOLIO
OF HOMES

Interiors With a Modern Touch

MANY OF THE HOMES being built today are featuring a semimodern treatment that is not as radical as the World's Fair type of architecture, but is yet a modernization of some of the older types. Here is an interesting example of a hall and stair treatment in a house at Westfield, N. J., designed by William Wilde.

THE MODERN FIREPLACE built of tile is a feature of the living room below, which is well proportioned, well lighted. The house has steel sash, brass pipe, forced warm-air conditioner with oil heat, and a clapboard exterior of unusual appearance.



Photos by Gustav Anderson





Kitchen Splendor

EXPERT CRAFTSMANSHIP is shown in the built-in wood cabinets, drainboard and clever lighting arrangement of this modern kitchen, designed by William Wilde. Exhaust fan is at left above. The clever shelf arrangement above stove is a popular feature with housewives.



PINE CHINA CABINETS and cupboards make this Summit, N. J., breakfast nook particularly appealing. The house was designed by Architect William Martin Pareis and built by Ernest Vetuschi. The floor is of inlaid linoleum, and the area above the paneled wainscot is covered with a colorful wallpaper which harmonizes with the pine.

**Breakfast
In Style**



For Basement Fun

THIS BASEMENT RECREATION ROOM in Summit, N. J., designed by William Martin Pareis, is made comfortable and attractive by the paneled fireplace, beamed ceiling and clever built-in bar.



Built-In Bar

A WARM AND FRIENDLY ATMOSPHERE is achieved in this basement room in a Long Island home designed by Reinhard M. Bischoff.

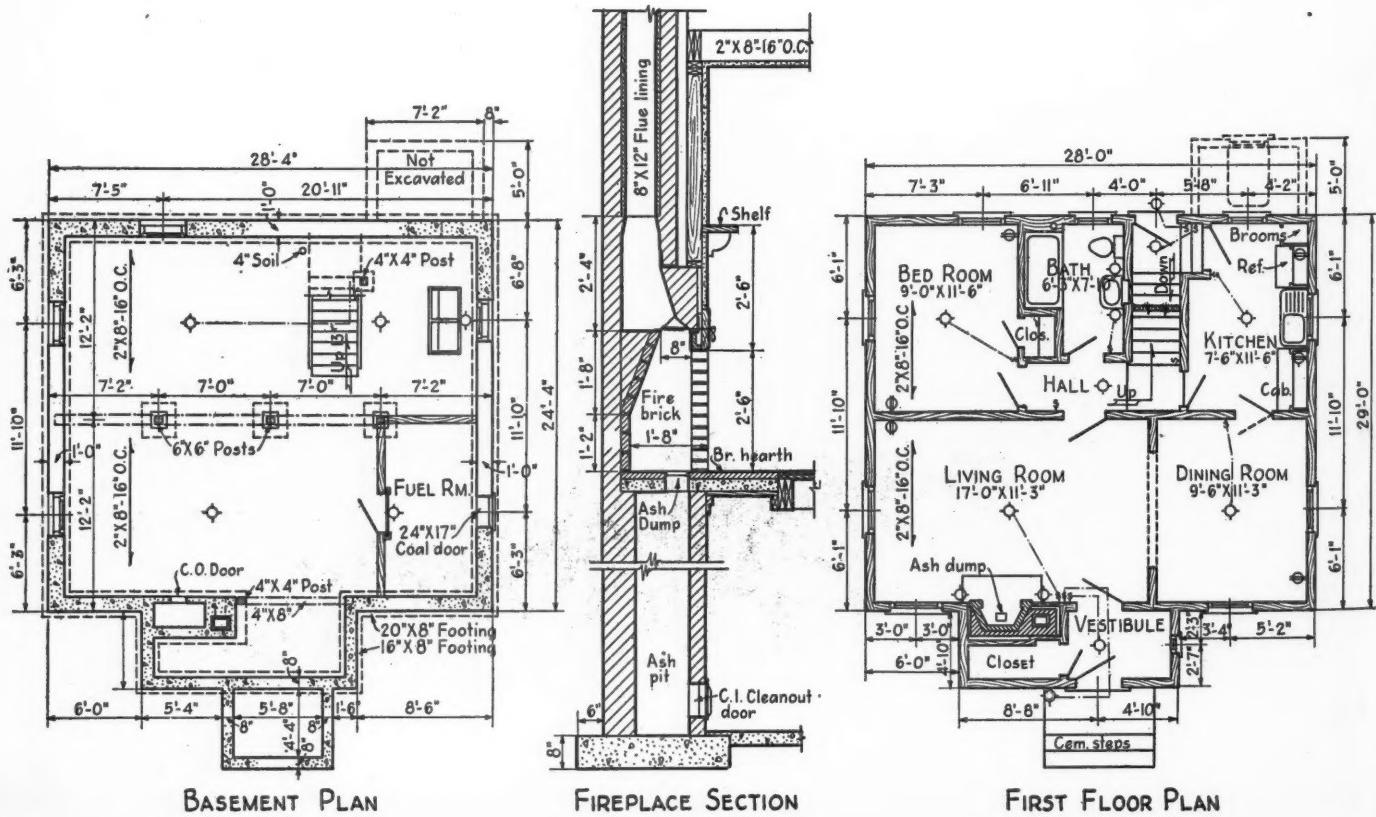


House of the Month

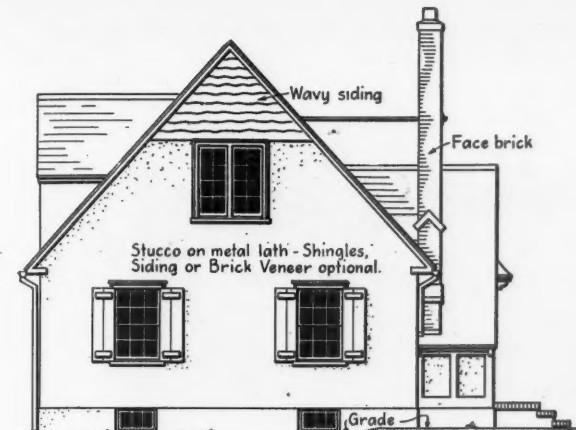
**Design No. 503, Architectural Dept.,
Northwestern Lumbermen's Assn.**

**Cost Key is 1.273-
112-728-31-16-13**

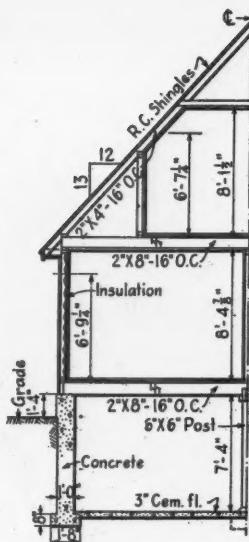
A POPULAR, low-cost plan has been selected as the American Builder's December House of the Month. It is one of the "best sellers" of the Northwestern Association, having been built many times during this past summer. It is entirely "functional" within and presents a graceful, harmonious exterior.



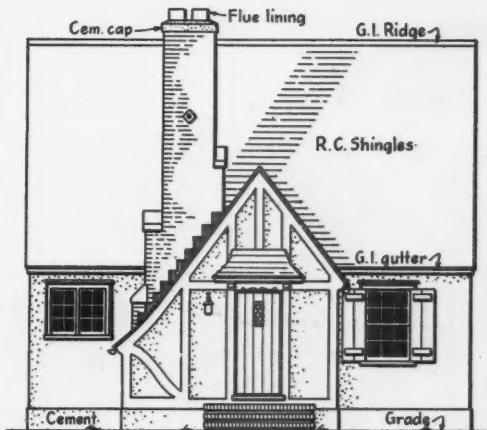
DETAILS FOR STUDENTS OF GOOD HOME PLANNING



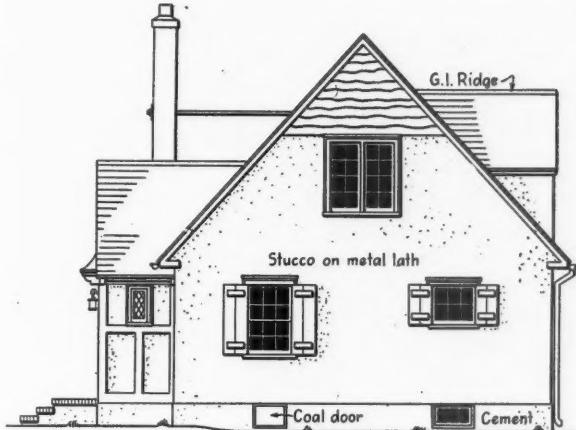
LEFT SIDE ELEVATION



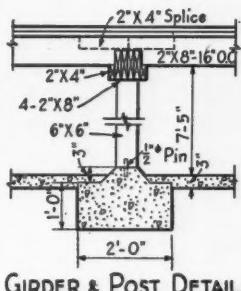
HALF SECTION



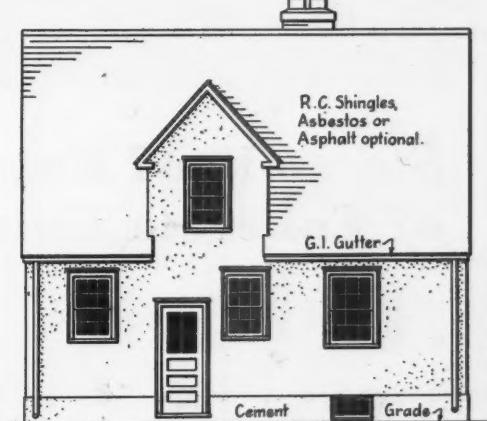
FRONT ELEVATION



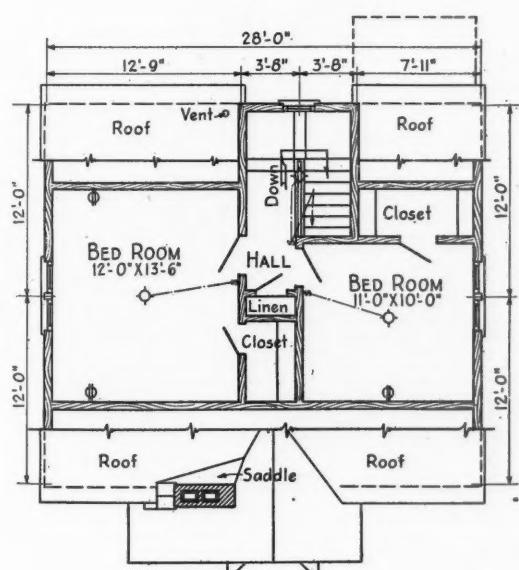
RIGHT SIDE ELEVATION



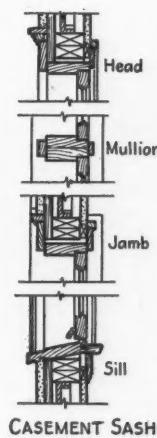
GIRDER & POST DETAIL



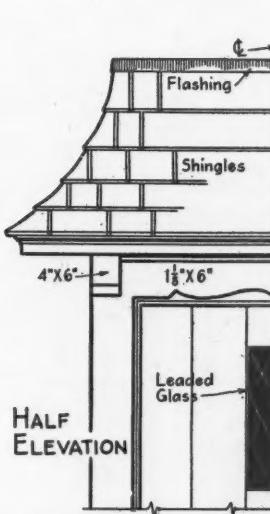
REAR ELEVATION



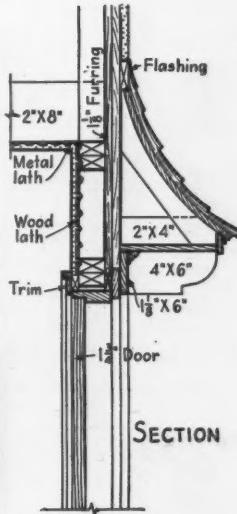
SECOND FLOOR PLAN



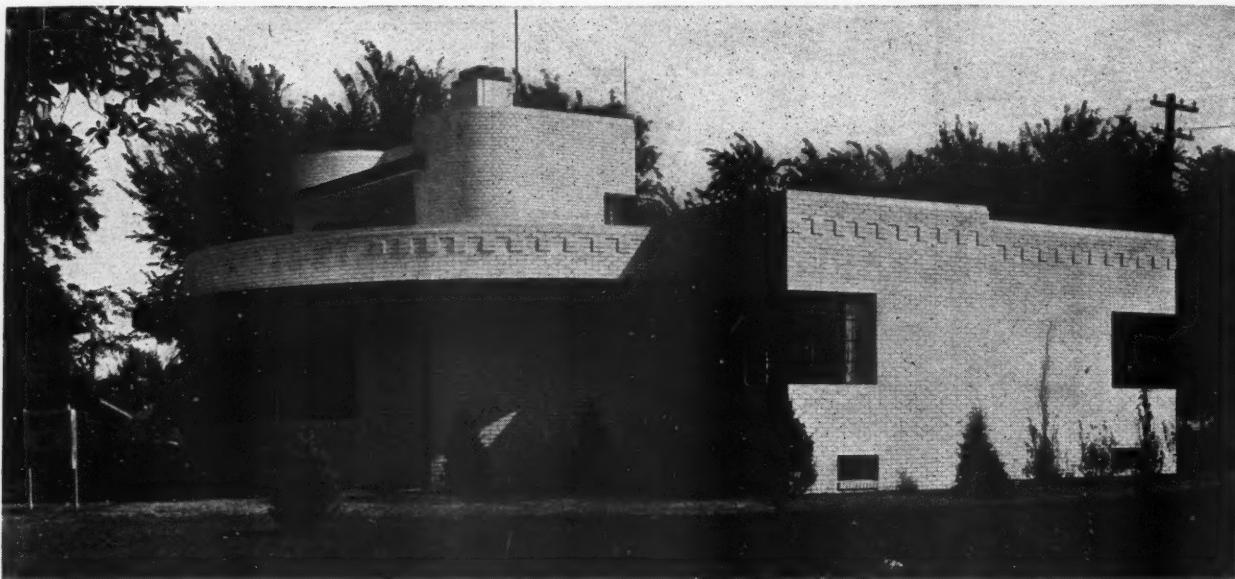
CASEMENT SASH



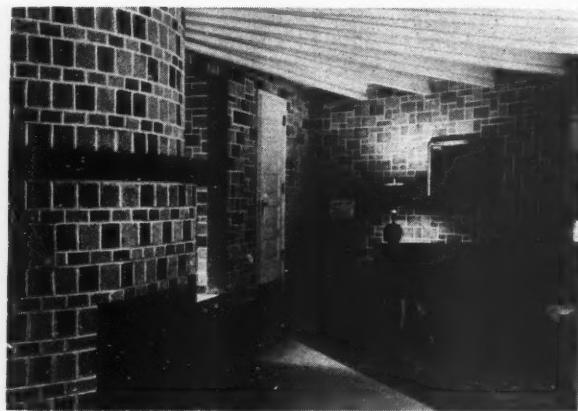
DETAIL OF ENTRANCE AND HOOD



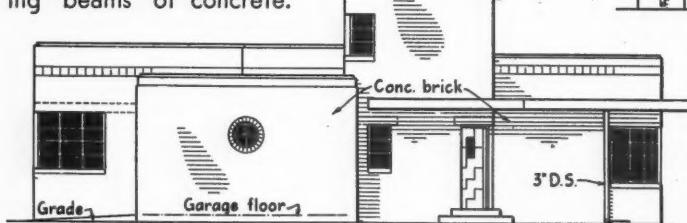
SECTION



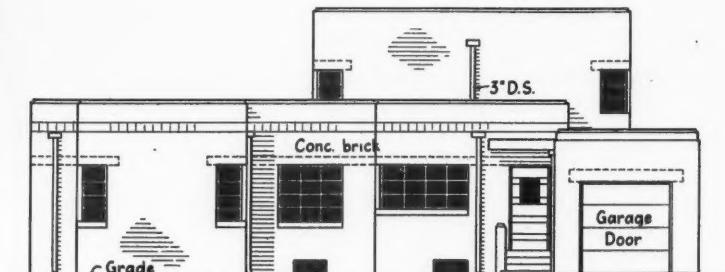
Streamlined Home of Concrete Units



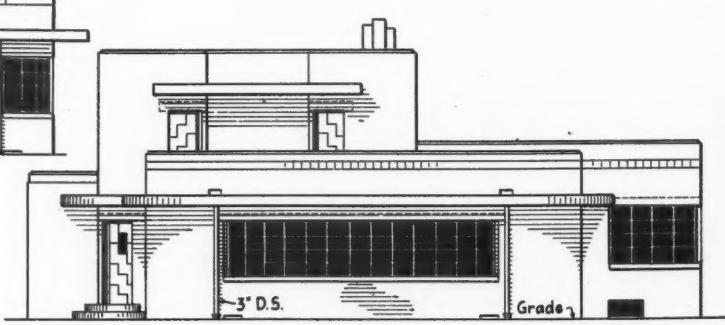
GLIMPSE of circular living room, showing central fire place and radial ceiling beams of concrete.



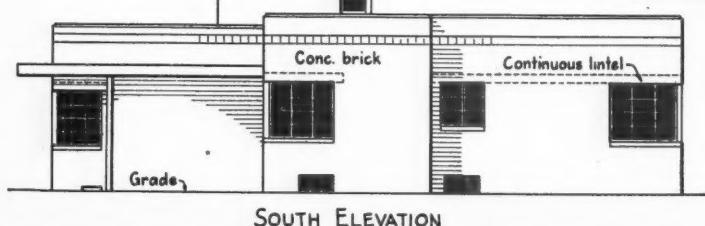
NORTH ELEVATION



EAST ELEVATION



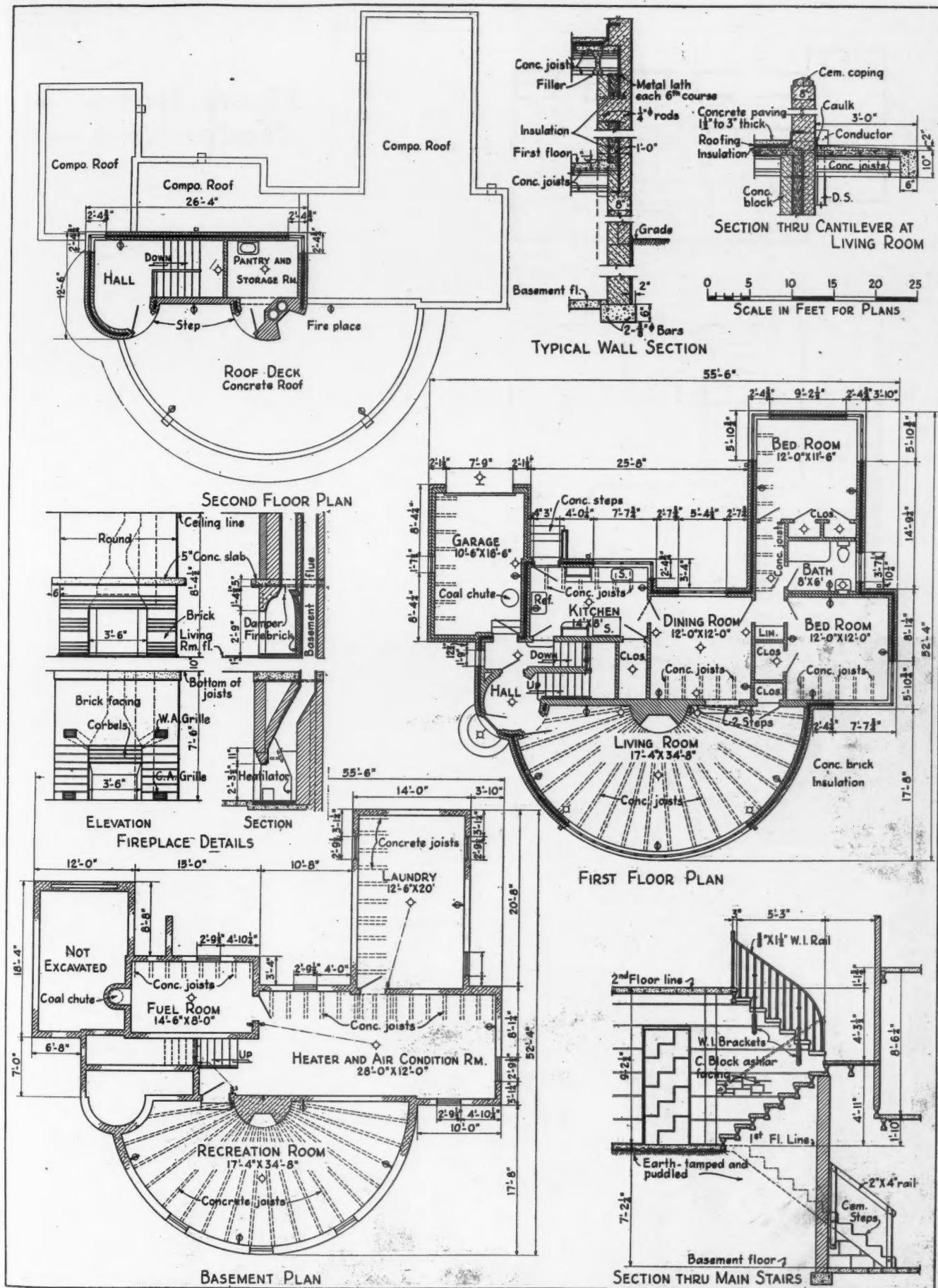
WEST ELEVATION



SOUTH ELEVATION

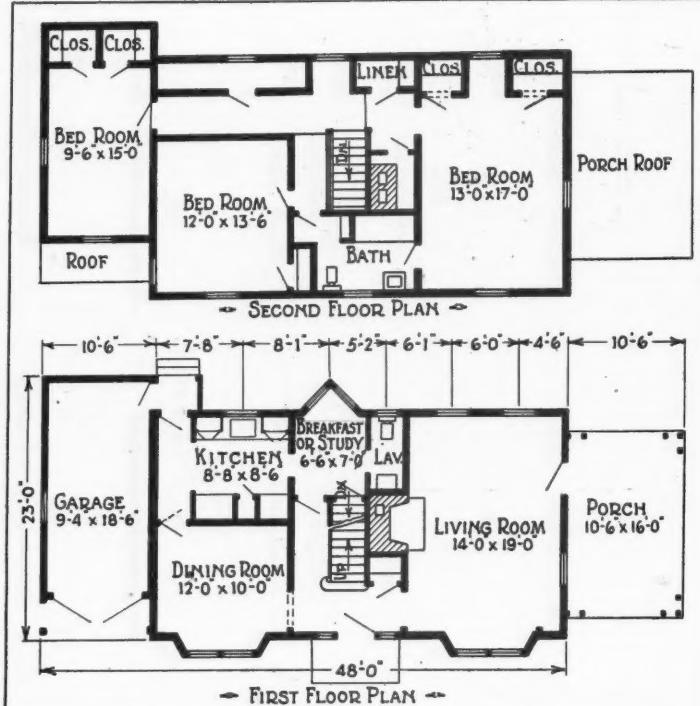
WHAT WOULD YOU estimate as the cost of this fire-safe home built at Spencer, Iowa? The owner-builder, A. P. Nelson, of the Spencer Cement Block Works, Inc., opened it to public inspection, offering 12 prizes to those estimating closest the cost of the structure and of its complete modern equipment. More than 10,000 cards were filled out, with estimates ranging from \$400 to \$120,000! Mr. Nelson states that his actual cost was about \$5,000 for the construction and \$5,500 for the mechanical equipment for this house. The house is of double wall construction with a 4-inch outer wall of concrete brick and an inner wall of 4-inch solid concrete ashlar.

THE ENTIRE outside of this house was sprayed with a cement gun made by the Eureka Art Stone Co., Eureka, Calif., using white cement tinted with tan cement color, and the entire inside of the house was also sprayed with one coat of this same material before applying paint.



THIS CONCRETE streamlined house built at Spencer, Iowa, was designed by Oren Thomas, Des Moines, Ia., architect. It carries out his best thought on a really up-to-date house or "house of the future." These working drawings show how it was constructed and arranged. Note precast concrete joists exposed for ornamental ceiling beams.

**CHRISTMAS
PORTFOLIO
OF HOMES**



Much House at Moderate Cost

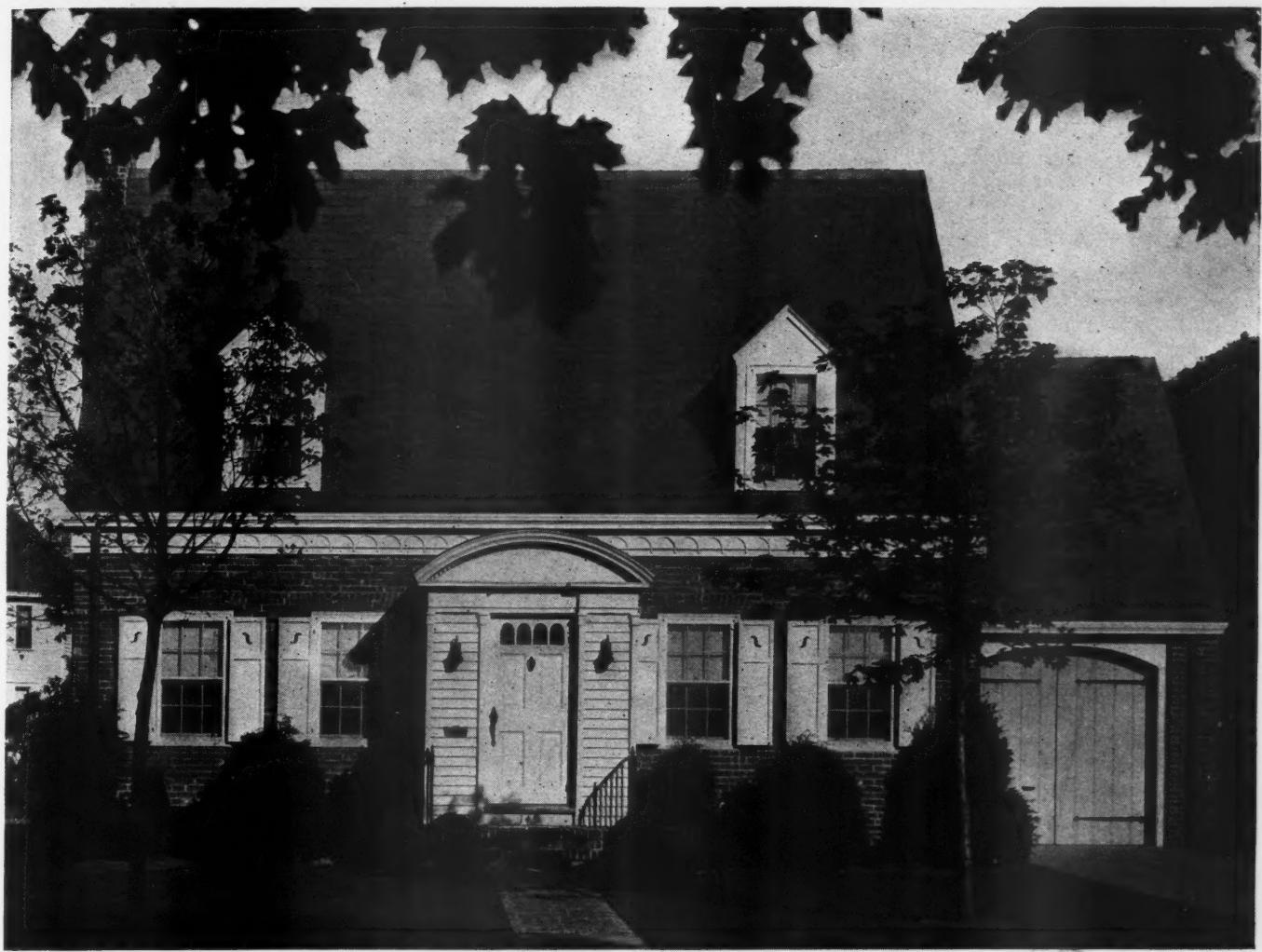
Cost Key is 1.986
-144-800-35-25-17

PRACTICAL as well as beautiful is this Colonial house in Orchard Hills, N. Y., designed by Randolph Evans and built by the Harmon Corporation. Main part of house is only 20 feet deep; rooms have unusual light and cross ventilation; one bedroom is built over garage.

EQUIPMENT in this popular Colonial includes American Radiator Co. steam system, Graybar washing machine, Frigidaire, Detroit Jewel gas range. House is wood frame with poured concrete basement and cement blocks around unexcavated parts. Cubic contents 24,500 feet; cost \$8,700.



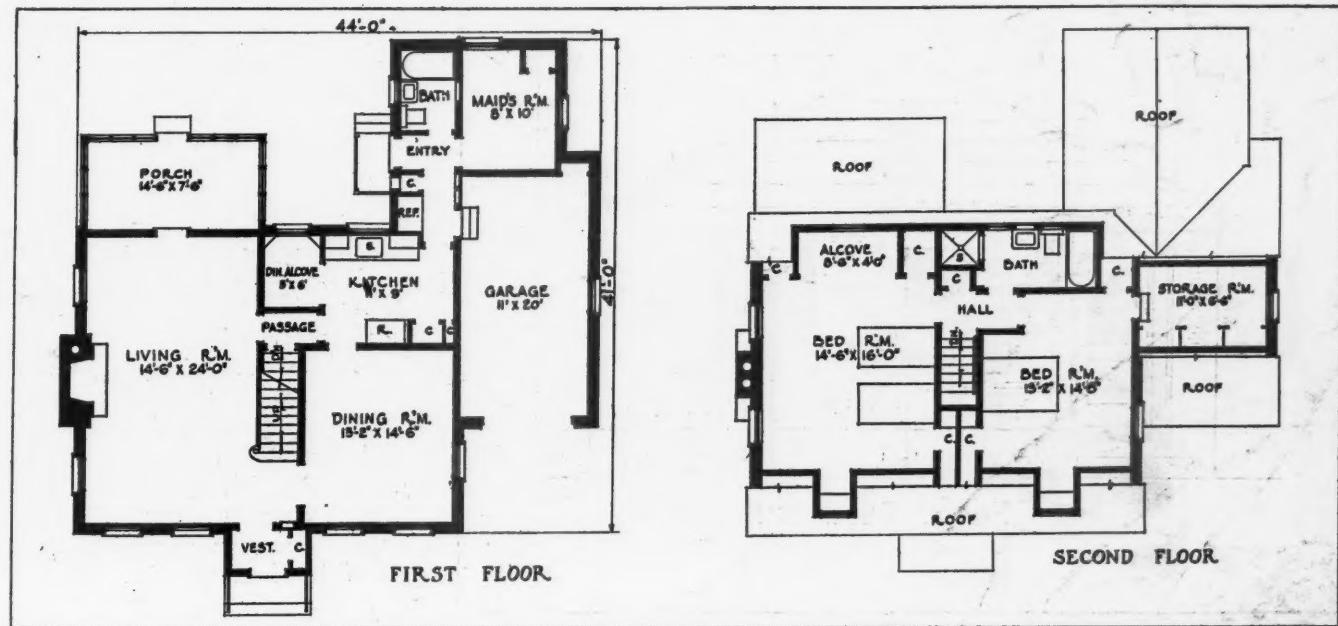
Photos by Gustav Anderson

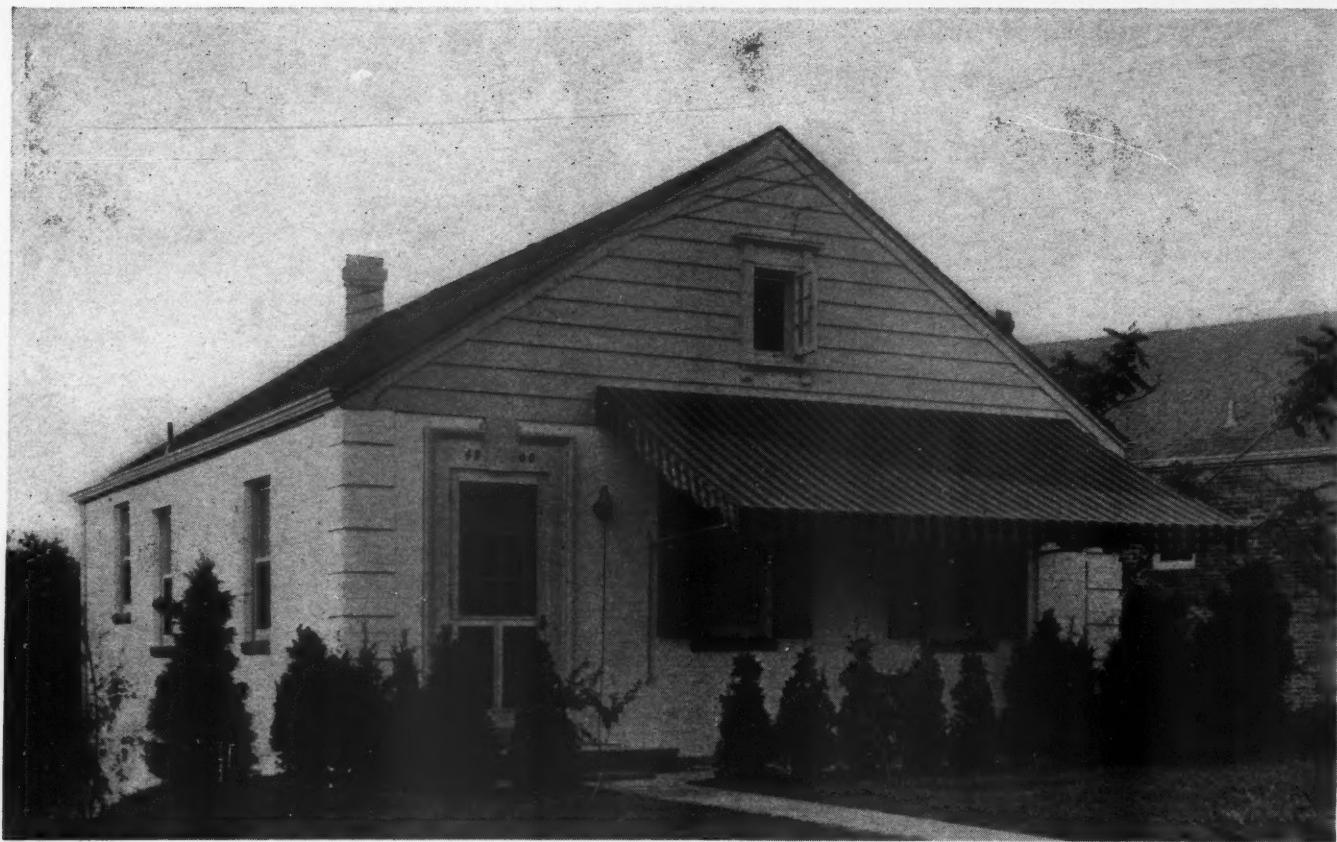


Small Brick Cottage With Enclosed Porch

Cost Key is 2.292-
194-1145-50-25-21

THIS COMPACT LITTLE HOUSE has a charming exterior and practical plan, including 2 bedrooms upstairs and a small maid's room and kitchen downstairs. It was designed by Maxmillian R. Johnke, who is doing unusually fine work on Long Island where this house is located. The enclosed porch at rear is a popular feature.

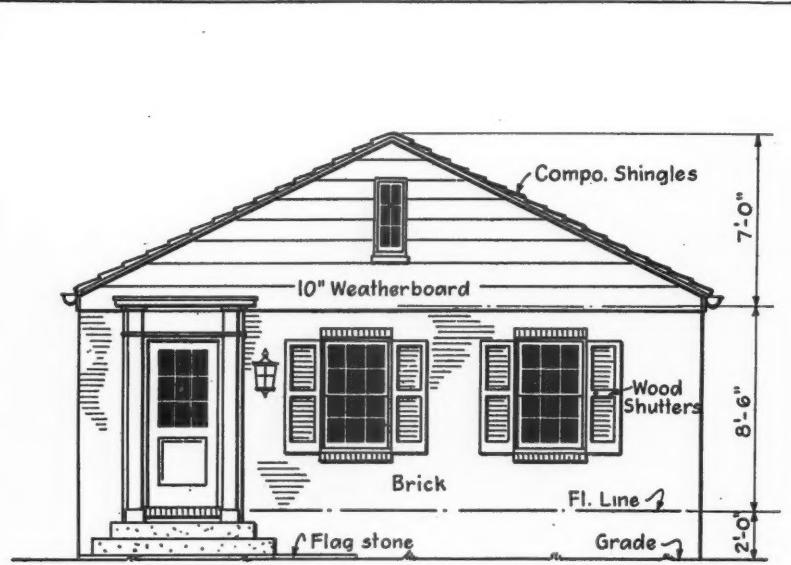




Small, Popular Washington, D.C., Bungalow

More Than 200 Like This Built in 1935

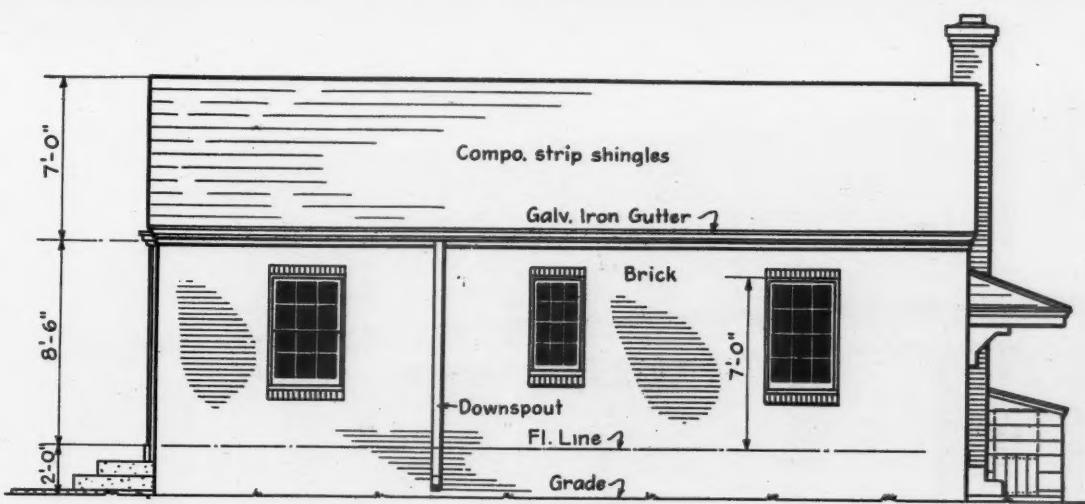
Cost Key is 1.063-133-(1000)-(42)-15-12



FRONT ELEVATION

SO MANY OF THESE ATTRACTIVE, small brick bungalows have been built and sold by Frank A. Simon in Washington, D.C., that a greatly enlarged program is now being planned. The houses sell for \$5,150 and \$5,350 and are of solid brick.

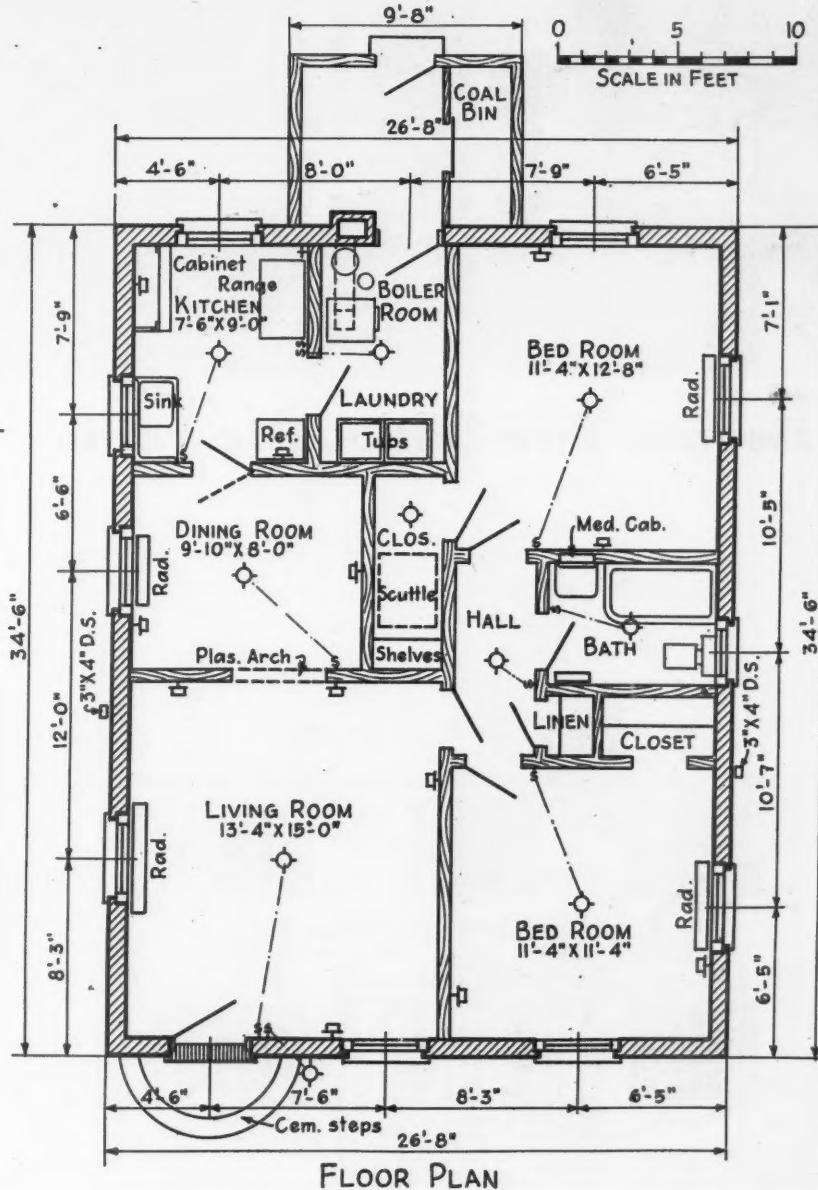
HEATING consists of an Arcola 2-pipe system located off the kitchen, since there is no basement. Houses are raised 30 inches to provide a good air space, which is warmed by the steam pipes. Other equipment includes Standard Pembroke tub and lavatory, Armstrong inlaid linoleum, oak floors, concrete steps and flagstone terrace, a colorful awning. Roof is of composition shingles.



SIDE ELEVATION

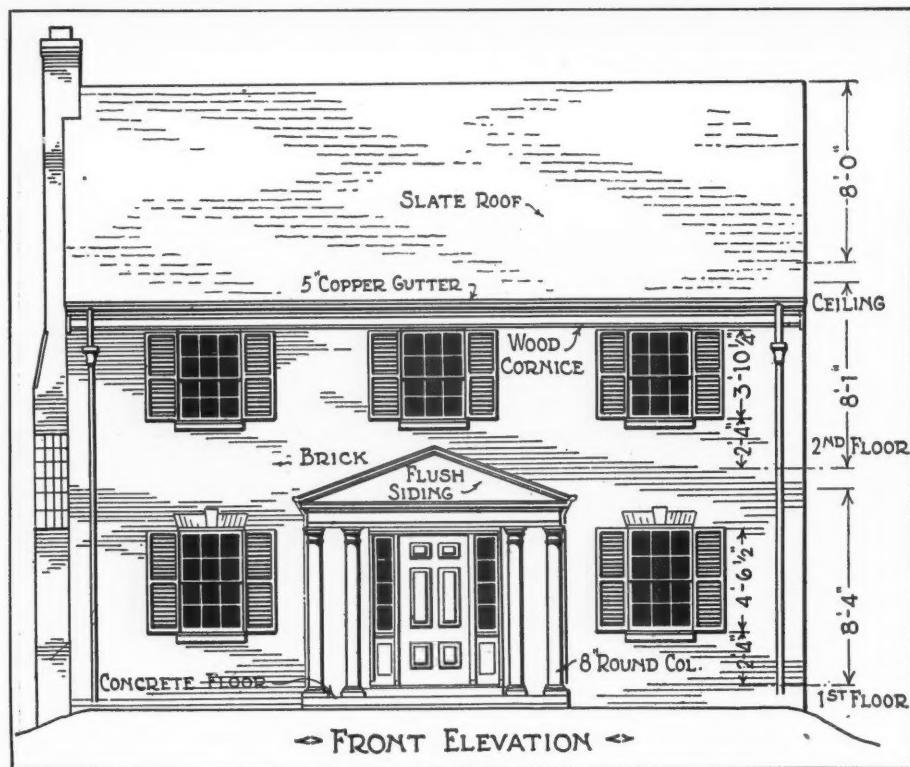
CONSTRUCTION DETAILS of the solid brick bungalows being sold by Frank A. Simon in Washington, D.C., show good proportions and sound construction. Plans were drawn by Walter F. Frederick, architect. The opposite side elevation is the same as the one shown above.

THE FLOOR PLAN at right shows a compact arrangement that provides 2 good bedrooms separated by an attractive tile bath with colored fixtures. An arched opening separates dining room and living room but adds to the appearance of size. Over-all dimensions are 26'8" x 34'6".

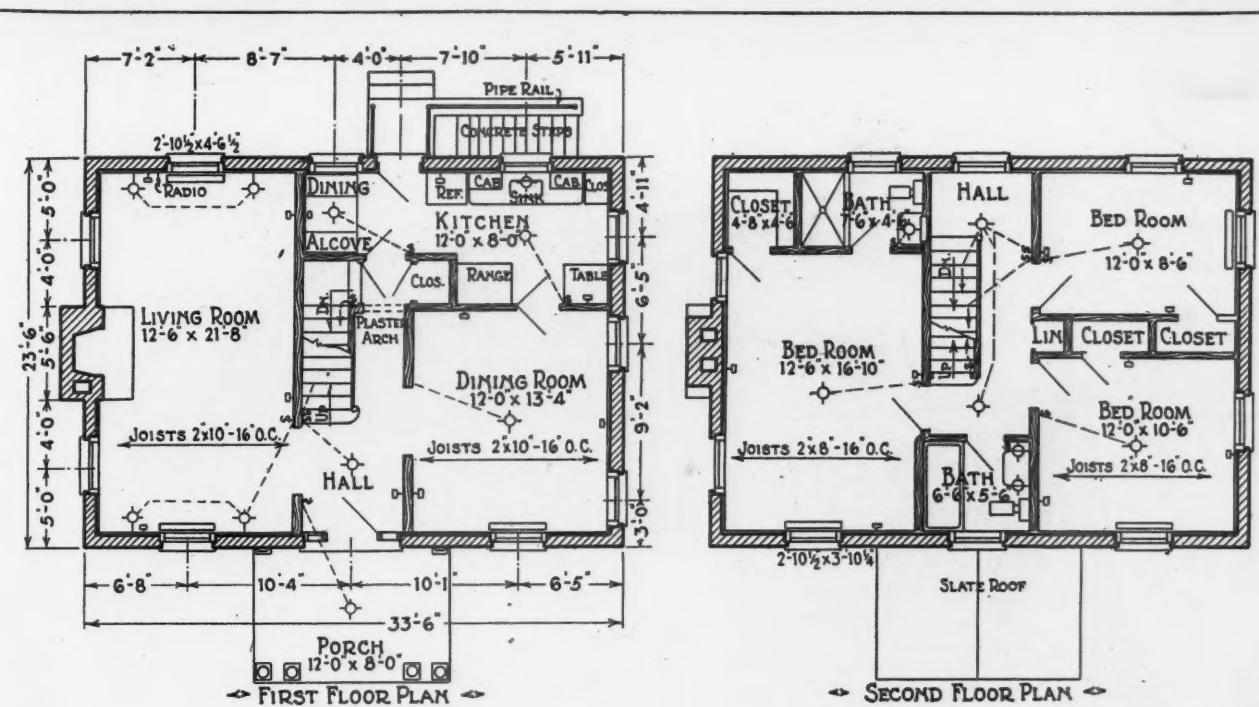




Six Rooms, Two Baths, Big Value



ONE OF THE MOST POPULAR types of conservative, brick Center Hall Colonial homes is this house by an outstanding Washington builder. The cost was \$9,500 without lot.



Washington, D. C., Model Home

L. E. Breuninger & Sons, Inc., Builders

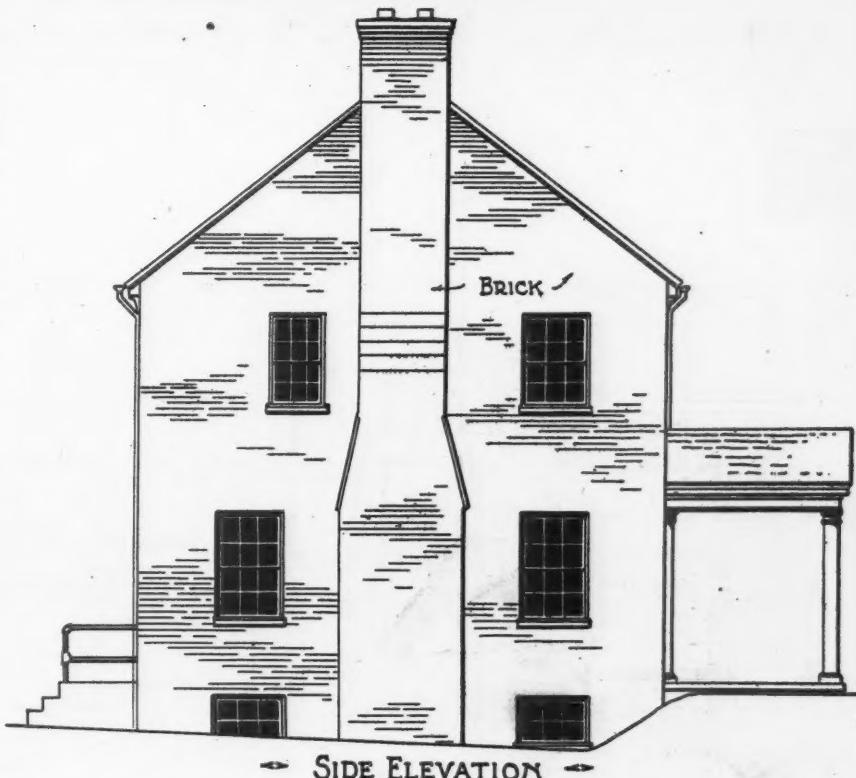
WALLS are 9-inch brick with furring strips placed on heavy asphalt paper. Second floor ceiling insulated with Johns-Manville Rock Wool. Attic is insulated with Celotex board. Roof is of slate. An electric kitchen is provided with a G-E range, Westinghouse refrigerator and cabinets by Oxford Cabinet Co. Radiator heat is provided by a Motor Wheel Company Oil Burner.

BASEMENT RECREATION ROOM is attractively finished in fir plywood with colonial plaster ceiling. Basement stair from convenient place in front hall.

BASEMENT WALLS are of 13-inch brick with 2 coats waterproofing cement on outside, on top of which is a heavy coat of asphalt waterproofing. House is located in Shepherd Park on a 60 x 100 foot residential building lot.

DISTRICT BUILDERS are finding a ready market for homes of this type which feature the comfort and healthfulness of large well lighted rooms. Of solid brick construction this house carries on in the old Colonial tradition.

CHRISTMAS
PORTFOLIO
OF HOMES



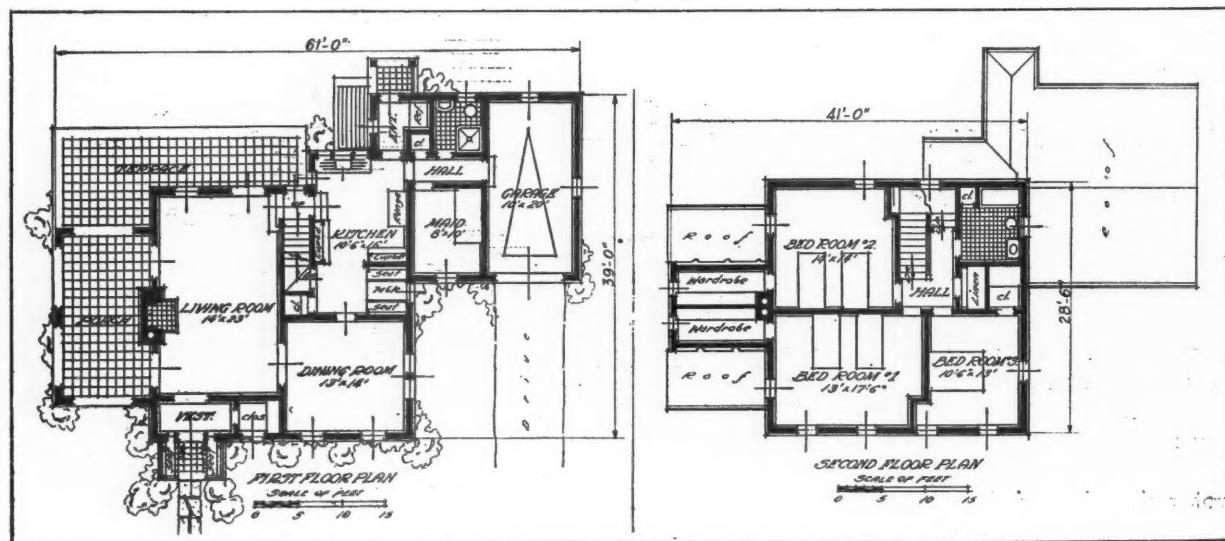


Leads to Outdoors

THIS COLONIAL house designed by R. C. Hunter, New York Architect, opens out attractively upon the porch and terrace, leading people easily to the outside. The floor plan is an unusual variation of Colonial planning but has many features to recommend it.

Cost Key is 2.408-
180-1114-48-31-22

CHRISTMAS
PORTFOLIO
OF HOMES



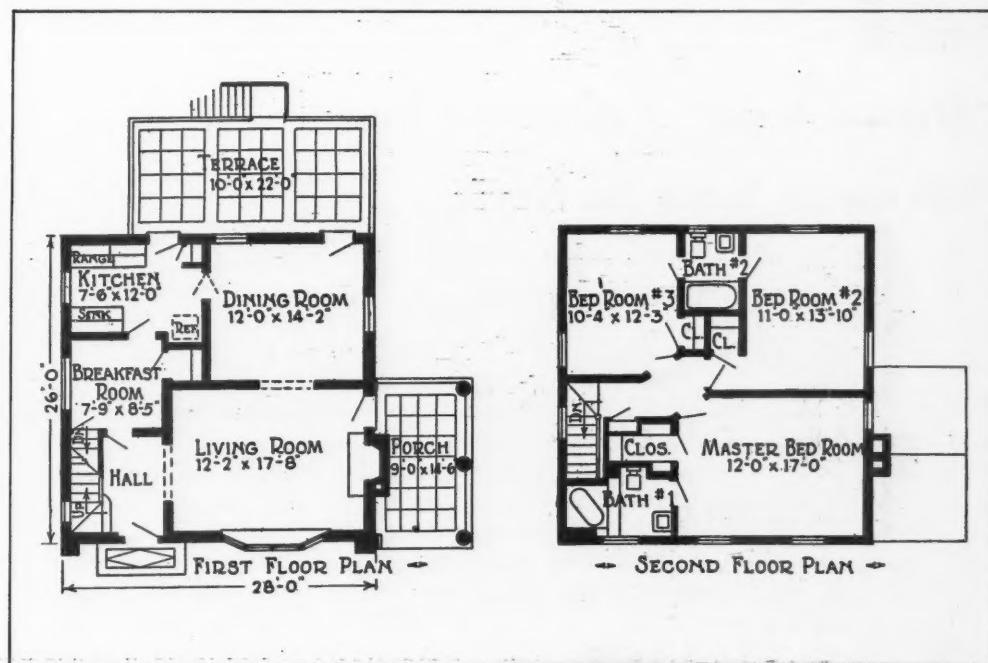


Latest in Planning

FLOOR PLANS of the house at left built by W. C. & A. N. Miller in Wesley Heights, Washington, D. C., show some of the latest and best ideas in moderate priced home planning. Rooms are spacious, yet no space is wasted. The open porch at right and the side terrace at rear are popular for today's outdoor living.

Cost Key is 1.554-108-736-31-23-11

THIS HOUSE was opened late in September as a model house and attracted much attention. The floor plan is compact, yet the house has a sense of spaciousness. The bathroom off the master bedroom is unusually attractive and features a square-type tub. Kitchen is compact, cheerful, well arranged. Construction features include full insulation, gas heat, steel casement windows, concealed radiation, basement garage, slate roof, Stran-Steel framing with brick exterior.





CHRISTMAS
PORTFOLIO
OF HOMES

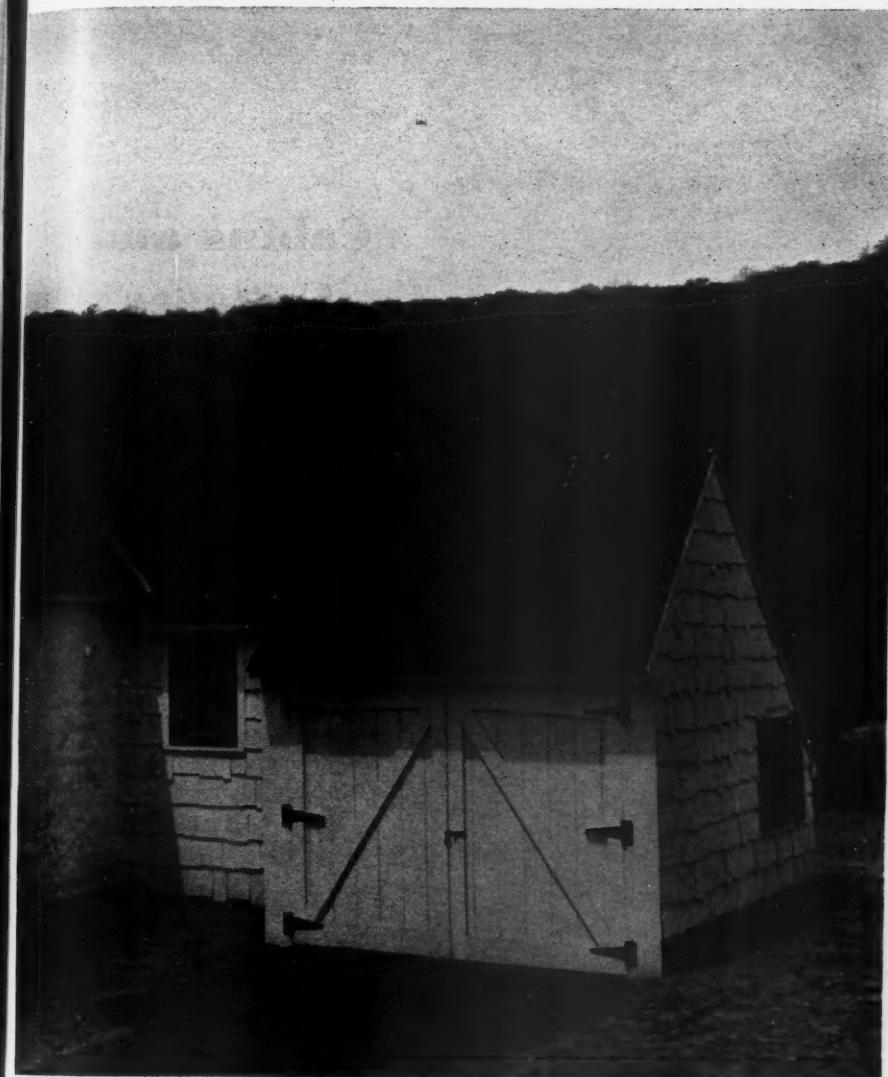
"Down East" Colonial Sets Advance Note in Style

Cost Key is 1.828-
170-984-43-22-16

ONE OF THE MOST POPULAR Early American homes built by the Arthur D. Crane Co., Lake Mohawk, N. J., is the Cape Cod cottage illustrated above, which sold at only \$4,850. Proportions are unusually good and the house as a result hugs the ground in a most satisfactory way. There is a massive center chimney, attractive open porch screened in, and an attached garage which is handled particularly well. The exterior is of white-washed brick and hand-split shingles. All trim and shut-

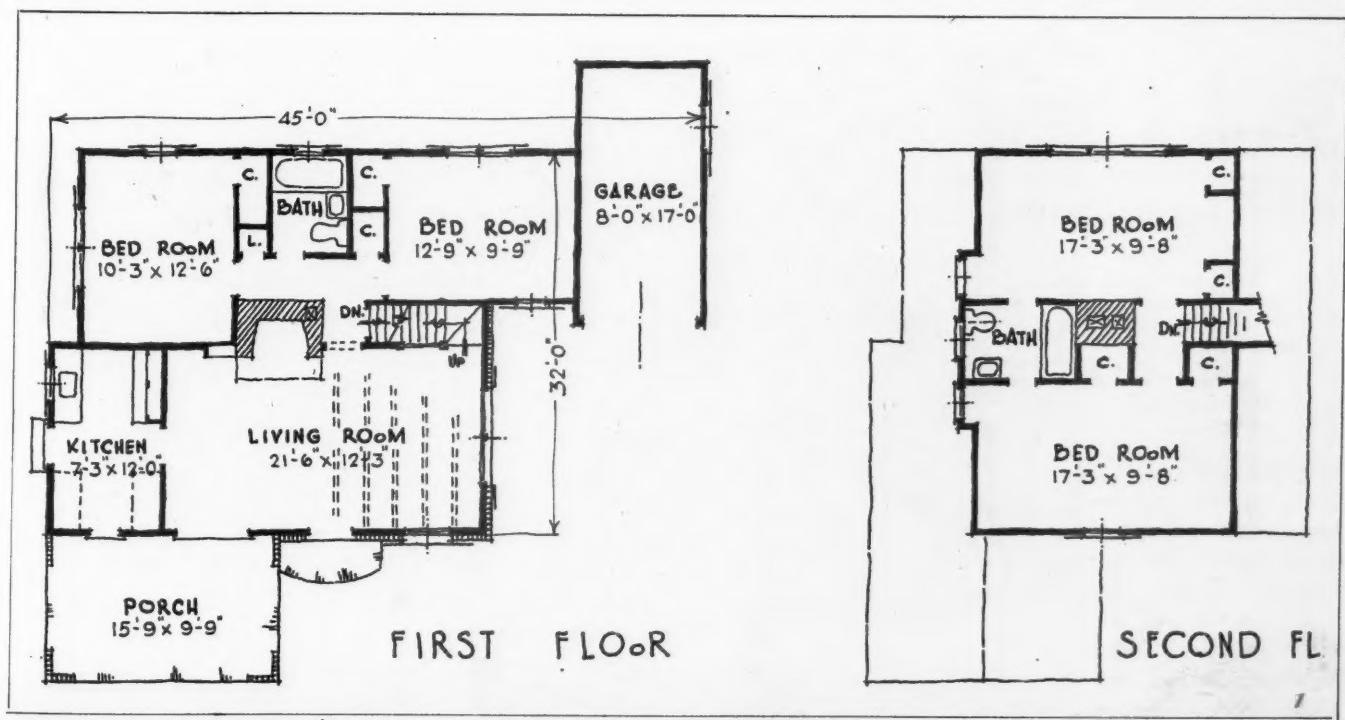
ters are of a rich dark blue, which provide a pleasing, cool contrast with the white walls. Foundation is of cinder block, structural framing Weyerhaeuser 4-Square lumber, and interior is of Idaho knotty white pine. Other products include U. S. Gypsum sheetrock tile board, Stanley Co. hardware, Anaconda copper flashing, Standard Sanitary plumbing fixtures, Thorn Co. steel casement windows. There are six rooms, bath, garage and recreation room in the commodious basement.

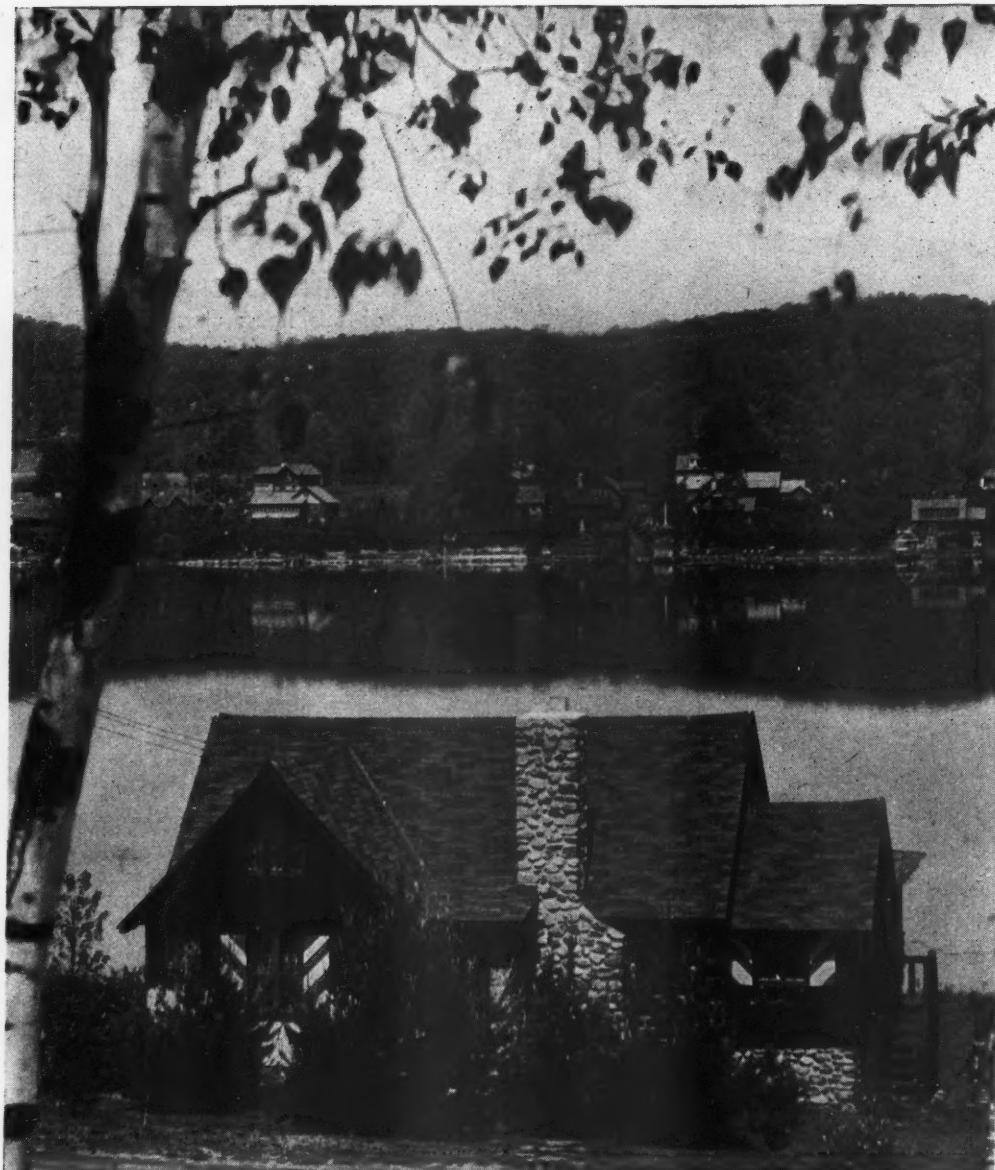
High in Style Low in Cost



THE ARTHUR D. CRANE CO., builder of this house, has succeeded in producing a design that looks like a lot of house for the money. The attached garage costs less than a detached type and has the added advantage of increasing the size appearance of the house.

FLOOR PLANS BELOW show an unusual arrangement but one that has been very popular with the semi-rural type of home owners at Lake Mohawk. One end of living room serves as a dining room, and the open porch is also much used for that purpose. The 4 bedrooms can take care of large summer crowds.





Cabins and Cottages at Mohawk

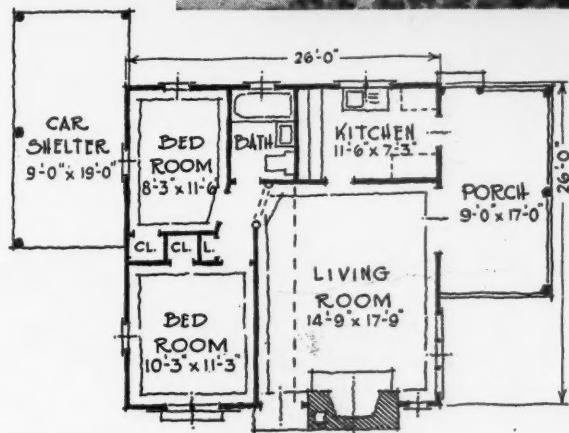
FAMOUS THROUGHOUT THE EAST are the cabins and cottages of Lake Mohawk, the 2,300 acre all-year resort at Sparta, N. J. The cabins are all-year-round houses designed and built by the Arthur D. Crane Co., with modern conveniences, using unusually interesting species of woods.

AT LEFT is shown one of the middle cost cottages with cypress exterior stained dark brown, and well proportioned chimney. It contains a large studio living room, kitchen, and 2 bedrooms.

CHRISTMAS PORTFOLIO OF HOMES

DETAILS such as this open terrace, massive fireplace, 3-exposure living room, and railings of chestnut logs make the Mohawk cottages popular. Cabins are well lighted with many large windows.





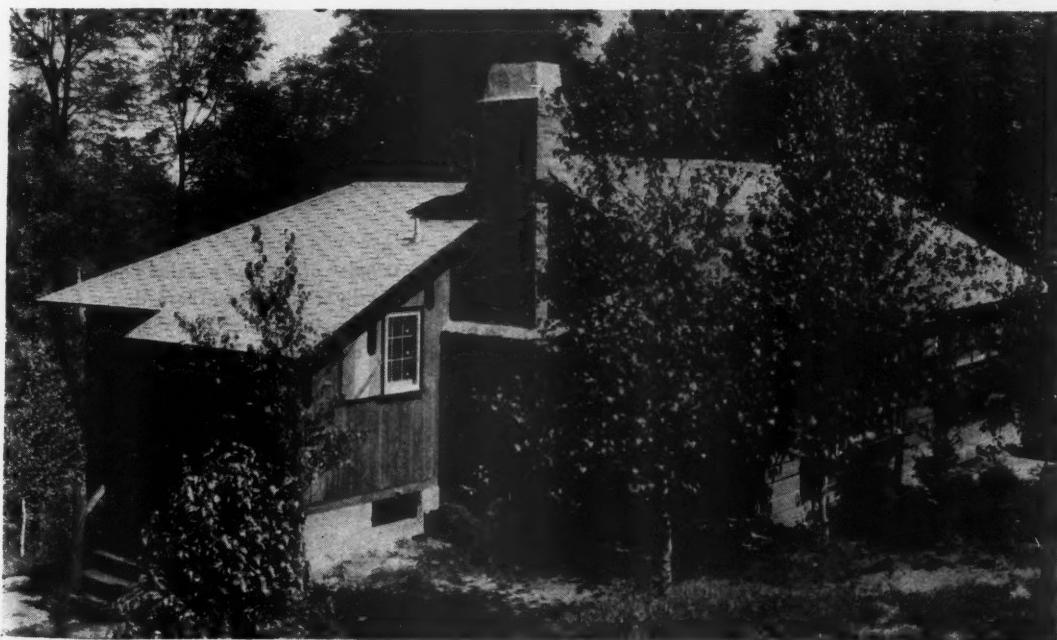
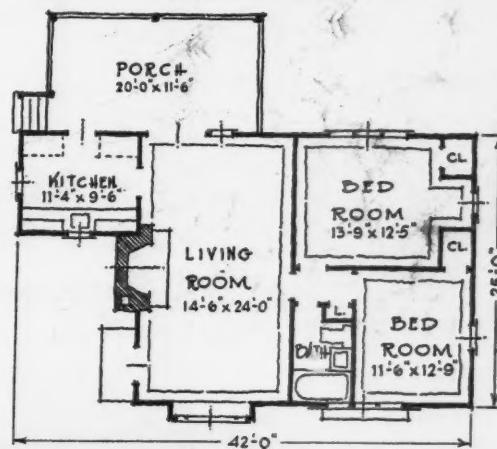
FLOOR PLAN INCLUDES open porch at view end, large living room, kitchen, bath and 2 bedrooms.

There are plenty of windows.

Cost Key is 1.047-104-(676)-(29)-12-11

"VISTA CABIN" has red fir siding with gables of chestnut log slabs, butt end down. Porch rails are chestnut logs. Interior "V" joint, knotty white pine.

Cost Key is 1.167-134-(870)-(37)-13-14



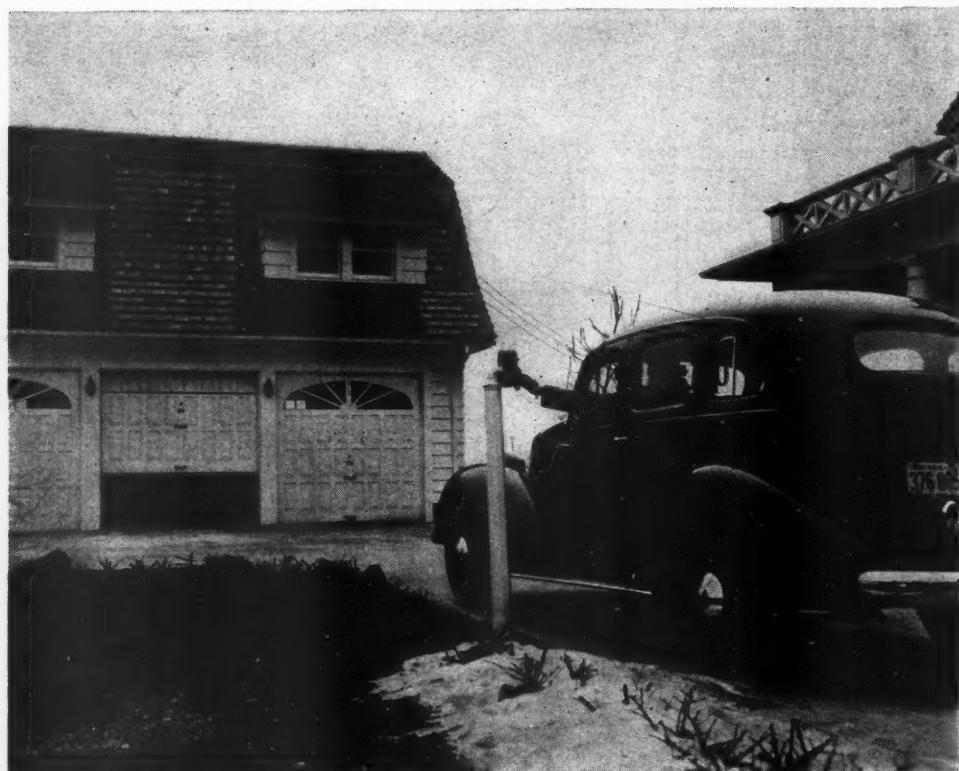
CHRISTMAS
PORTFOLIO
OF HOMES

SOUTHERN cypress is used for the exterior of this Norwegian cottage, and "V" joint pecky cypress is used for the interior. The large living room has a bay at one end and an open porch at the other. Kitchen is conveniently placed so that owner can dine either on porch or at end of living room.



OLD house to right was modernized and enlarged into this impressive oil and gas service station at De Graff, O. An important part of the new equipment is the two automatic opening Roll-N-Fold garage doors (The Majestic Co.) furnished to this job through the Quincy Lumber Co., Quincy, O.

Good Garages



ABOVE is good example of distant control electric door opening; each of these three doors operated from one key switch post. Doors are "Overhead Doors" from the Overhead Door Corp. Charles H. Houck, architect, Muncie, Ind.



TO left, example of richly paneled garage doors suitable for costly residence. These doors furnished by Kinnear Manufacturing Co. Tetzinger and Schleppi, Columbus, O., contractors; Benham and Richards, of Columbus, architects.

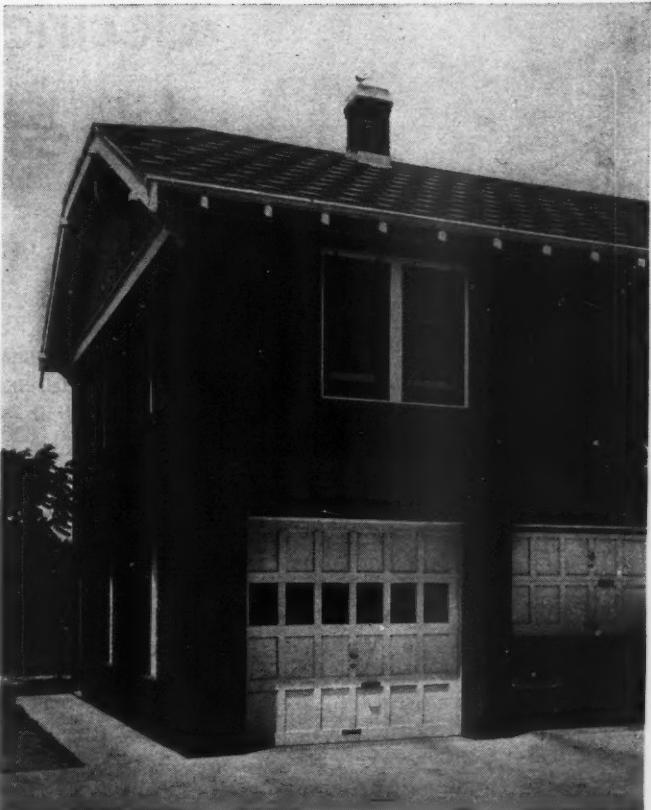
GRACEFUL example of attached garage in residence on River Drive, Appleton, Wis. Fred Hoeppner Sons, contractors, and Herman Hoeppner, architect, all of Appleton. National Manufacturing Co. garage door equipment used.



For the Christmas Car

WHILE builders and the entire building industry often regard automobile buying as their biggest competitor for the public's dollars, feeling that much of the money spent for cars and gasoline might perhaps better be invested in a home, nevertheless it must be admitted that a considerable amount of building construction is directly traceable to the ownership and use of the family car. Vast new suburbs and subdivisions are opened up for new homes, made accessible by automobiles and good highways. And not only are these new homes built but each has or should have its garage, either attached as part of the house or in a separate structure.

As cold weather comes on and Christmas gift autos are talked of, don't overlook proper auto housing. The day is past when any old shed would do to protect the car from the weather. Today the garage is designed in style, fit companion to the dwelling it serves. It is substantially built and furnished with door equipment that is efficient, secure and easy acting. The door and door operating equipment have become recognized as the most important part of the garage. The upward-acting type of door has come into considerable favor because of its freedom from snow trouble and its ease of operation. The sliding-folding style door also is well liked and has stood the test of time. Old hinged doors are often rehung and converted into the satisfactory tip-up type at small expense. Doors are now equipped for opening and closing by electric switch.



TO right above, part of garage at Miami, Okla., equipped with doors from the Rowe Manufacturing Co. Contractors, N. J. Padgett and L. R. Johnson of Miami.



TO right, illustration of batten type "Floatover doors" furnished by Cornell Iron Works, Inc., for this residence at Kew Gardens, L.I., N.Y. The Karl Construction Co., of Flushing, builder.

OPERATIVE BUILDERS

A monthly department for the men who plan, erect and equip homes for sale



HARRY J. DURBIN,
builder of Modelectric
home in Detroit.

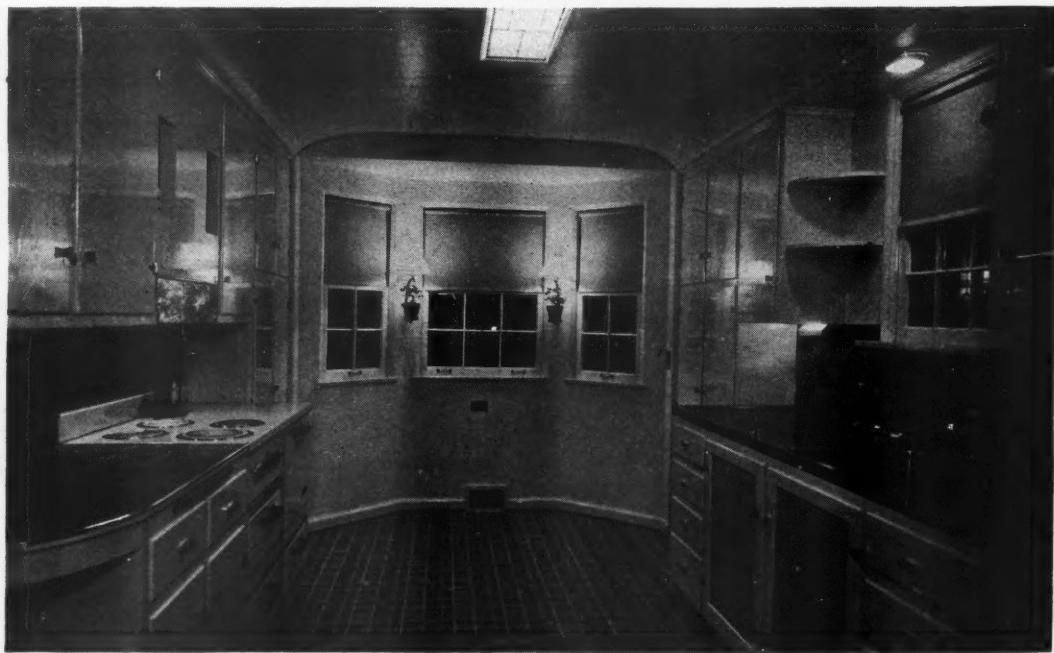
Electric Demonstration Home Increases Builder's Business

**Quality Advertising and Electric
Company Co-operation in Detroit
Model Home Project Bring Prestige**

WHEN Harry J. Durbin, Detroit builder, collaborated with the engineers and experts of the Detroit Edison Company to produce a house which would demonstrate the advantages of modern electric equipment, no planning and merchandising opportunities were overlooked. The result, known as the "Modelectric" home, illustrated in a practical way what can be accomplished in a medium priced dwelling by using electricity to make

it a house of leisure, and a house of modernity.

The problems in the development of the house were first to plan the layout for a maximum amount of efficiency in the arrangement and size of rooms—thus reducing unnecessary effort on the part of the housewife. Second, the selection of materials and equipment was to be made according to durability, comfort, safety and, most important, economy—both in construction cost and



KITCHEN of Home of Today, which was designed to save time and labor by the use of scientifically planned and arranged equipment.

maintenance during the life of the home. Finally, there was the choice of such labor-saving electric equipment and scientific lighting as would make it a complete demonstration of the latest devices which are within the means of the average home owner. All these features were successfully incorporated in the completed project.

The Durbin organization builds on contract from plans formulated in their office under the supervision of registered architects. Arthur L. Weeks designed the Modelectric home which was completed in the summer of this year. Mr. Durbin reports that the high type of publicity used to advertise the project reflected most favorably for them—thirty homes have been completed or are under way since this demonstration, several running over \$20,000 each. "We consider the Modelectric showing a most valuable sales aid," says Mr. Durbin.

Besides newspaper advertising (see illustration), booklets telling of the "New Science of Seeing" as developed by manufacturers of lighting equipment and incorporated in the Modelectric were used in the promotion and distributed to the visitors at the showing. A special folder pointed out the various features, the kitchen being the center of interest. "This attractive, up to date kitchen costs very little more than a kitchen of the usual type. If you are building a new home, monthly payments of only \$1.50 more per month over the life of the contract will give you this model kitchen," states this leaflet.

While the home is designed along the 16th Century Tudor style for architectural charm, the layout and construction are according to modern practice in planning. Some of these outstanding features of the Modelectric home are as follows:

Features of Modelectric Home

A combination kitchen and breakfast nook, completely equipped electrically with a range, refrigerator, dishwasher, ventilating fan, automatic toaster, percolator and food mixer.

In every room of the house, the character and quality of the general illumination has been carefully planned to follow specifications of the new "Science of Seeing" to protect eyesight and for comfortable and easy seeing. The lighting also provides decorative beauty.

Floodlighting for rear of house.

Kitchen lighting consists of general ceiling illumination and, in addition, specially designed "spot" lighting over the range, sink and counters.

Illuminated house number.

A special five-switch "Variety Light" in ceiling of the dining room gives five different combinations of light for decorative or utilitarian purposes. Amber, blue and white bulbs are concealed behind a leaded glass panel, and afford a diversity of illumination for all occasions.

Weather-proof electric outlets on exterior of house for decorative, Christmas tree, and garden lighting.

Special recessed dome lighting is installed in each bedroom. Boys' bedroom has recessed bookcase lighting. A Gar Wood air conditioning plant, to furnish filtered air, automatically oil heated and humidified in the winter, and circulated in the summer.

Ventilator to purify bathroom air.

An all-electric laundry, a hobby room, a general utility room, a recreation room with fireplace, and a bar—all in the basement.

Non-stick windows, sealed with metal weatherstrips and felt, to eliminate air leakage and drafts. This also decreases condensation on windows in winter months.

Rock wool insulation in all outside walls and upstairs ceilings, to save on fuel bills in winter and keep the house cool in summer.

Special metal trim on all door and window frames

and to eliminate frame shrinkage and air leaks.

Tile roof flashed with copper to assure low maintenance expense and long life.

Full-length basement windows to admit more light in the recreation, utility and hobby rooms.

Magnodor electric garage door opener, operated from a push button mounted on the instrument board of the car, so that garage doors are operated both in and out without the driver having to leave his seat in the car.



YOU'VE NEVER SEEN a house like this!

The house shown above is not for sale. It is the Modelectric Home, located in Warwick, two doors south of Grand River, in Rosedale Park. But here is a home that represents months of study by specialists in home planning, in co-operation with electrical engineers. It is so completely different from an ordinary residence—it has so many new and startling features, things you've dreamed of and dozens you've never thought of—that even if you don't intend to buy or build a home, you should not fail to see this one. Although the Modelectric Home has already been sold, it is being shown to the public through the courtesy of the owner.

Electrical magic makes this house a pleasure to live in. From the moment you step your car into the driveway, press a button on the dashboard of the car, and watch the garage doors open before you, you are served hand and foot by one electrical convenience after another. The Modelectric kitchen is a revelation in modern efficiency: Press a button and the dishes wash and dry themselves. Snap a switch and the electric range cooks meals. Pull a cord and a ventilating fan whisks cool fresh air into the kitchen. Electricity also runs the refrigerator, water heater, food mixer, percolator, toaster, etc. The kitchen is scientifically designed to save miles of steps in a year—no time or expense has been spared in making the room up-to-date and practical in every respect. Here is a home in which electricity does all the work . . . it may truly be called a "home of leisure."

A great deal of thought and consideration has been given to making this house economical from the standpoint of upkeep. From the tile roof on top of the house, to the modern air conditioning plant in the basement, every detail has been chosen with a view to permanency and resultant low cost of upkeep. The exterior trim is of Redwood and the interior of Oak and enamel. Doors are flush and of massive oak. Steel trim throughout the house prevents shrinking. Although the Modelectric Home has dozens of features of the "house of tomorrow," it retains all the architectural charm of the 16th Century Tudor. The lighting throughout the house is designed according to the latest principles of the new Science of Seeing, for easy and comfortable seeing, and incorporates several new and noteworthy decorative features.

It may be years before you have a chance to inspect another home like this one. We suggest that you arrange a party with a group of your friends (though you may come individually or bring your family, if you wish). The Modelectric Home is open every day in the week, from 10 a. m. to 9 p. m. To avoid large week-end crowds, the house is shown by appointment only on Saturdays and Sundays. Telephone Redford 1800 for an appointment.

The Modelectric Home is located at 15491 Warwick Avenue, 2nd house S. of Grand River. Warwick Ave. is ½ mile W. of Southfield Road.



HARRY J. DURBIN, Builder

18901 Grand River

REdford 1800

WELL PREPARED advertisement appearing in the Detroit News (2 columns by 14 inches) directed the attention of many interested prospects to the Modelectric home demonstration.

MODERNIZATION

"which makes buildings of all kinds more cheerful, more livable and more salable"

From Old to New in Kalamazoo

Builder Paul Ligtvoet of Kalamazoo, Michigan,
Remodels a Typical 1½ Story House
into an English style Home

THE PROBLEM of modernizing the typical story and a half, wide-eaved, American bungalow has been undertaken by numerous builders in various parts of the country. Some of these houses have been converted into Colonial cottages, others have become Spanish or Norman in style to satisfy the present varied tastes in architectural design.

Builder Paul Ligtvoet of Kalamazoo, Mich., successfully converted one of these houses of yesterday into a charming English home. The changes shown in the before and after pictures below are extensive but well planned. A. DeDoes, also of Kalamazoo, was the architect.

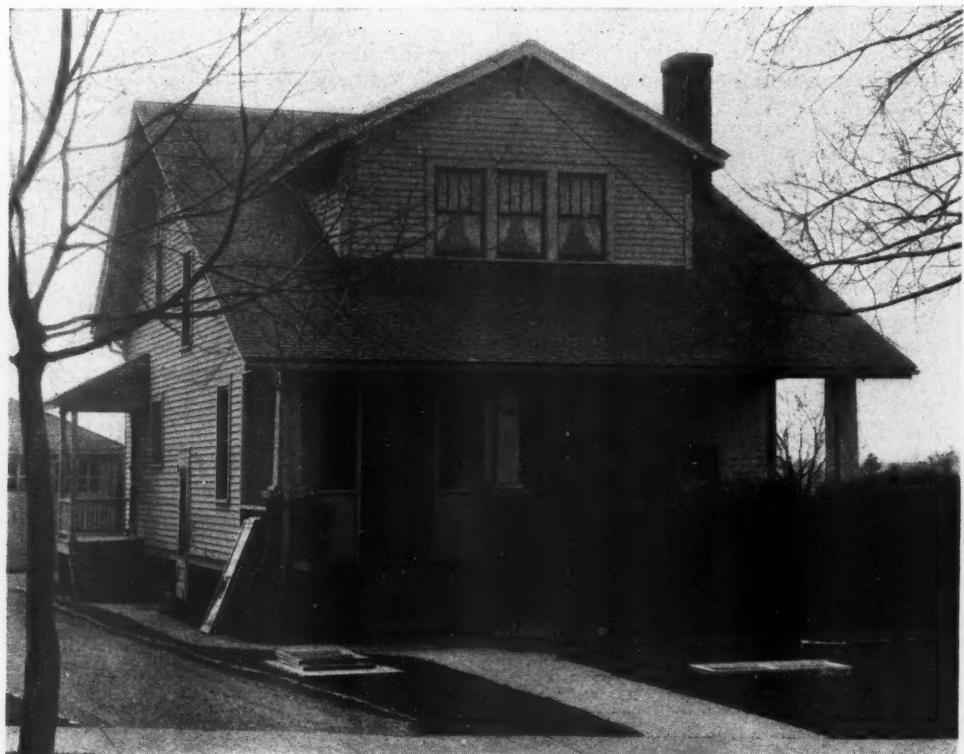
The exterior changes started with the removing of the

wide front porch and providing space for a sun porch in the rear of the house to give greater privacy and a view of the yard. A new gable with half-timber and stucco on metal lath facing the street changed the roof line and replaced the wide dormer. Entrance is through a new vestibule, the rounded arch opening being trimmed with rough textured cut stone of color to harmonize with the brick-work.

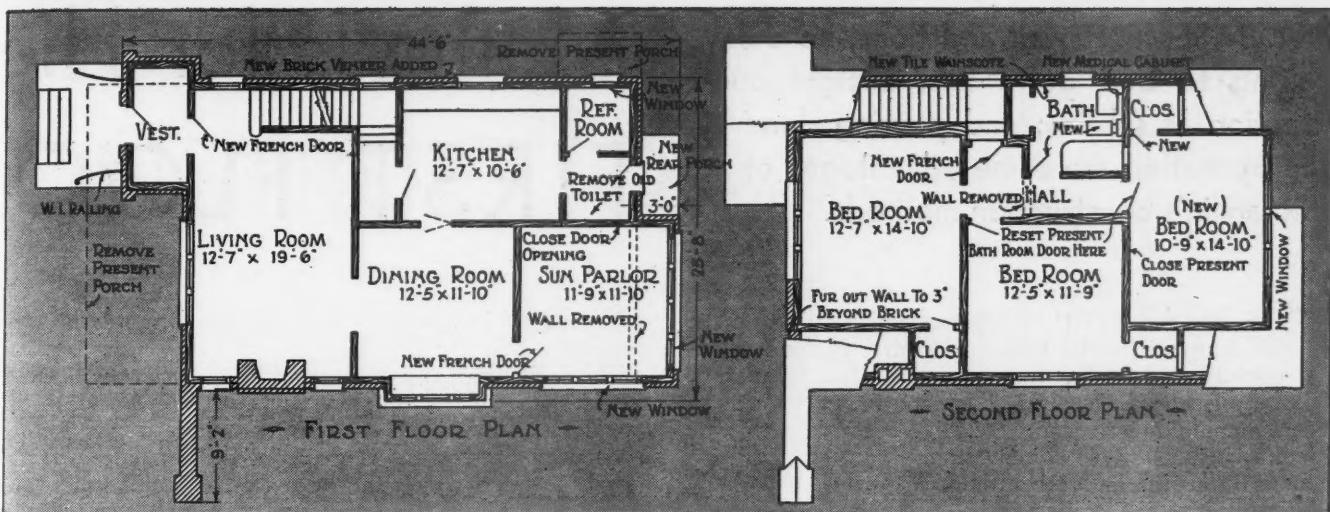
The foundation for the brick veneer extends below grade three feet with one end of steel S hooks bent over the top of the old foundation and the other end supporting $\frac{1}{2}$ -inch reinforcing bars at the bottom of the new 6 inch wide footing.

Face brick anchored to the frame and set in Brixment

BEFORE



THE TYPICAL story and a half wide-eaved bungalow as it appeared before Builder Paul Ligtvoet of Kalamazoo, Mich., started modernizing it into an English home. The porch extending across the front cut down the light in the living room and has been removed.



Floor plans indicating some of the changes made in this remodeling operation.

mortar with raked joints were used for exterior finish over medium weight Kalamazoo Vegetable Parchment paper applied to the siding. Steel angle lintels support the veneering over all openings. The old cornices were cut down and a roof of Ambler asbestos shingles laid.

The side wing continuing from the roof line gives the front elevation a wider appearance and balances the entrance opposite. A side porch and service entrance were removed, the access now being in the rear. Another bedroom was added over the sun room using the space provided by the new gable at the back of the house.

The arrangement of the rooms was not altered extensively—only one large partition was torn down and the location of several doors changed. A refrigerator and storage room were made from the former rear entrance way; the new porch is reached through the old first floor toilet room.

Second floor closet and storage space extends under the gable. In the bathroom, the walls were tiled with glazed wall tile, the tub moved, new closet installed and a Victor electric heater set in the wall. The entire second floor ceiling and new walls were insulated with a three-

inch layer of mineral wool to prevent heat loss upward.

Heating ducts for the additional rooms were extended from the old system, a humidifier put in and a booster fan added to take care of the extra load.

Sanitas covering for the new walls, new hardware and finishing the woodwork completed the interior. Outside the grounds were landscaped, the sidewalks relaid for the new entrances and an underground wiring connection made to the garage.

The remodeling was completed in three months at a cost of approximately \$3,000. L. A. O'Toole, the owner of the property, has a home which is now both larger in size and less expensive in certain maintenance costs. The exterior appearance has made it more in keeping with other modern homes of the neighborhood.

Builder Ligvoet is an active factor in the building field of his community and renders complete contracting and designing service. In 1927 he built the Kalamazoo Electrical Home and previously had been awarded a certificate of merit by *Building Age* in the Best Selling Homes in America competition. He considers this remodeling project one of his outstanding jobs.



AFTER

WITH THE roof line entirely changed by the new gable facing the street, the house is hardly recognizable as compared to the former appearance. A side wing on the right gives the necessary balance and width to the front of the house.

DRY BASEMENT wall and floor, no delay waiting to bed down sills, airtight construction at sill line, and pouring done in one operation are some advantages of F. H. Hamlin's construction methods.

THE FIRST STEP in construction is to locate the building accurately, which of course is done in cooperation with the owner, and at the same time definitely locate the level at which the first floor will be when the building is completed. We indicate this on our drawings as "Zero" or "Datum."

In erecting the batter boards at all principal corners, we always aim to use pieces of 1 x 6 which are straight and about 4 or 5 feet long with 2 x 4 stakes well driven into the ground, and if they extend more than 2 feet above ground we brace them each way with 1 x 6 braces. The tops of all batter boards are carefully set at "Zero" with either a long 16 foot hand level or with a builder's transit. These batter boards are very useful during excavation work. By reference to the drawings it will be seen that the depth of the wall footings is 8 feet 11 $\frac{1}{4}$ inches and the balance of the area is 8 feet 7 $\frac{3}{4}$ inches. A couple of 1 x 2s cut to these two lengths will serve as a check stick for these two depths, and by placing the bottom end of the stick in the excavation the proper depth can be checked by sighting over two of the most convenient batter boards. This method can also be used to set the top edge of the footing forms.

We have had such satisfactory results with the surface and seepage water drains which are installed outside the foundations as shown in step No. 2 that we very strongly urge that they be used. In something like 25 years of use, we have never yet been troubled with a wet basement. In order to install these drains it is necessary

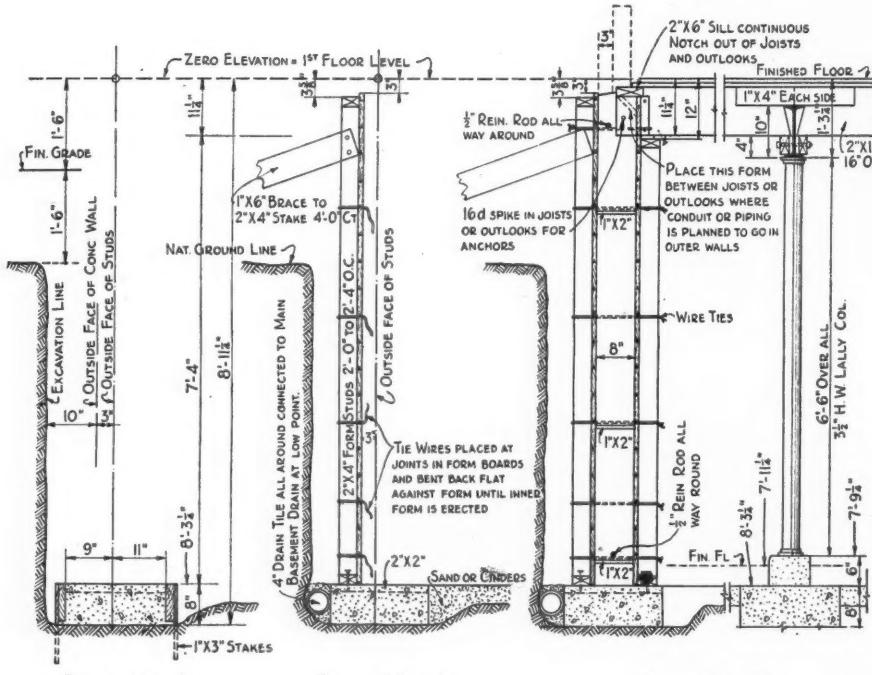
Methods for High FIRST FLOOR

to excavate 4 inches more earth all round than is usually the case.

This will bring the excavation lines 10 inches beyond the face line of the concrete walls. These lines are all laid out and checked for accuracy on the corner batter boards, and a saw-cut is made in the top edge of the boards through which the lines can be run. Later on, after the footings are completed, the face lines of the concrete walls can be transferred down from the tightly stretched lines to the concrete surface of the footings.

The tile drains naturally should be installed as soon as the 2 x 8 footing forms are removed and protected by a light covering of sand or cinders. After removal of the outer forms the 10 inch space between the face of the wall and the earth banks is to be refilled with either cinders or coarse gravel or even coarse sand up to within 6 inches of the finish grade line. This is very important in order to afford the tile drains a chance to do their full duty in carrying off surface and seepage water. It is time wasted to install these drains and then back-fill with clay or even top soil which will pack and form a dam that holds the surface water which seeks an outlet through the concrete wall, causing damp spots to show on the inside after heavy rains.

About one of the neatest little "kinks" we have ever developed is that of installing 2 x 2s in the fresh concrete at the time the footings are poured, as shown in the wall sections. These are worth their weight in gold, so to speak, when it comes time to lay down the form plates



AT THE LEFT are shown the three steps as described in F. H. Hamlin's methods of basement and first floor construction, which have been perfected over a long term of years devoted to high grade residential work.

ON OPPOSITE PAGE, various details of the methods used are illustrated. The Section at Girder is typical of the high grade manner in which the construction is handled and all the drawings deserve thorough study.

High Grade BASEMENT and CONSTRUCTION

By F. H. HAMLIN
Hamlin Sons, Villa Park, Ill.

for both the outer and inner forms. A 16d nail not fully driven is used at each of these "bed pieces" and the forms are going to "stay put" even if a sizable cave-in should happen on the outside; this always happens just at the wrong time and usually causes considerable delay in getting the forms back into place.

The outer forms are all erected, braced as shown, and before starting the inner forms all windows and doors are located and their frames installed against the outer forms.

Also all area walls are located, and 2 x 2 pieces (slightly beveled) are installed against the outer forms so as to form a groove in the face of the wall into which the area walls can later be tied. Also any sleeves required are located and provision made for their installation. In the meantime work is begun on the chimney and fireplace bases and these are run up to the level of the bottom of the first floor joists, and it is then possible to install the floor joists or girders permanently as soon as the interior forms are completed.

At this time and before the interior form studs are put in place, the one-half inch reinforcing rods that go in the bottom of the wall are temporarily placed so that as soon as the first board is installed on interior forms these rods can be secured to the bottom tie wires to prevent their displacement during the pouring process. The top rods can be installed after concrete is poured up to the level of the top wires.

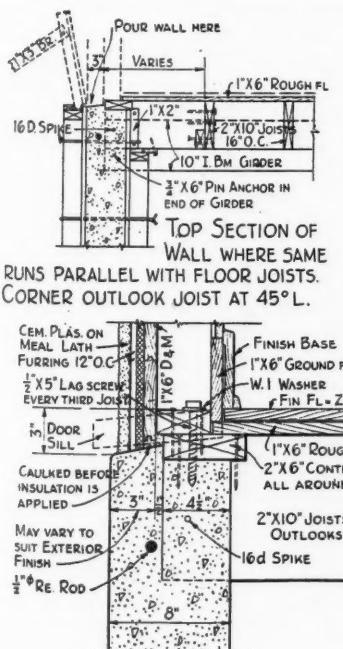
As soon as the interior form studs are erected and

temporarily braced to the outer forms, the floor girders are installed as shown with their outer ends extending through the forms at least 4 inches with $\frac{1}{4}$ inch x 6 inch pin anchors as noted on drawings.

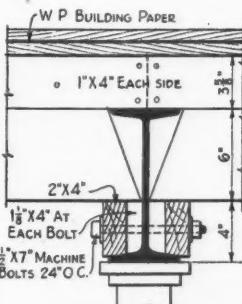
Upon completion of the inner forms up to the plate line and after same have been lined and braced, the first floor joists are installed as shown in sections. Our method has always been to have a detailed drawing of all floor joists, headers, chimney and fireplace openings, stairways, plumbing stacks, vents, heating ducts or pipes, and electric conduits, made to a $\frac{1}{2}$ inch scale and each and every joist exactly located to $1/16$ inch. Before making this floor joist layout we confer with each of the pipe trades that are to do the work in their lines and decide on just how their lines are to go in so that no unnecessary cutting of joists or concrete walls will be needed. The 2 x 10 joist outlooks are required wherever joists run parallel with the wall in order to secure a uniform set-up for the 2 x 6 sills and to secure a firm anchorage for the floor joists at all points.

The value of this type of sill and joist construction as a fire-stop cannot be overestimated. There is no chance whatever for fire to eat its way up between the studding except at the few points where pipes or conduits are run from the basement up between the studs of the exterior walls. If care is taken at these points this danger can also be avoided by filling in with rock wool or other non-burnable material the space around such pipes or conduits.

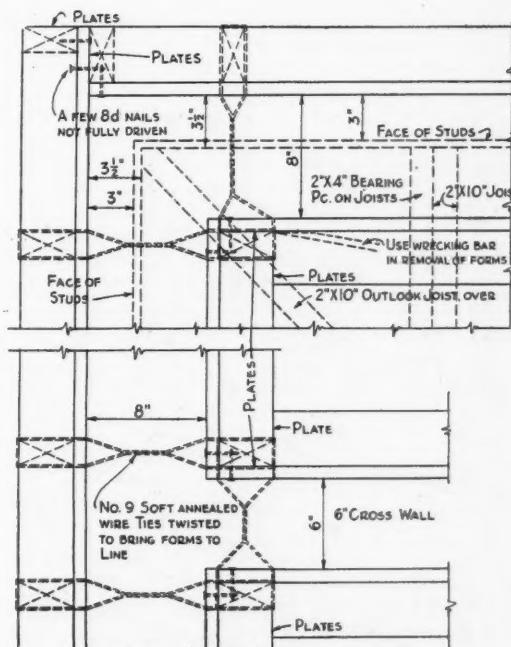
(Continued on page 70)



CONSTRUCTION DETAILS FOR BASEMENT WALLS AND MAIN FLOOR AS DEVELOPED AND USED BY HAMLIN-SONS, GEN. CONTRACTORS LAKE VILLA, ILLINOIS.



3" SCALE SECTION OF TOP PART OF WALL



TYPICAL FORM LAYOUT AT CORNER

Economies in Heating by Controlled Equipment

By V. L. SHERMAN

Department of Mechanical Engineering,
Lewis Institute of Technology, Chicago

ANY home such as the ones proposed under the Federal Housing Administration should be an economical one. This as much as anything else makes it a secure investment. If the heating equipment in a home can function with economy it pays the owner to treat it well, and in nearly every case he does. But if the heating equipment runs away with the expenses there is the tendency to let it run and balance the budget by cutting into the rightful expenses of some of the other equipment. This, of course, works havoc with things in general and creates additional expenses that were never considered at the beginning. How long before the general rundown conditions make it discouraging for the owner and the mortgage holder?

Many rightfully regard the heating equipment for the cold months as the chief item of mechanical equipment for the home. And most contractors do all that they can to provide adequate equipment. But I sometimes think they overlook a few bets that are very well worth considering. For instance many one-pipe steam heating systems have been installed with somewhat poor results considering the real rating of the equipment because they were not thoroughly equipped. If such a system is put into use with nothing more than a simple

cock for venting, and these are handled promiscuously by the persons who happen to be in the different rooms, there is no use expecting the system to operate well or with any degree of efficiency. But we do know that one-pipe systems are installed and work well and efficiently if they are built to take care of themselves.

It has been customary in larger spaces, where wall areas below the windows were sufficient and the appearances were not to be too nicely considered, to have steam heating coils of straight runs and returns fastened to the walls in banks. They were open enough to allow for convection currents and the bare pipes surely transmitted the heat from the steam to the room. Yet in laying out heating systems some of us still forget that the heat is best utilized when it reaches its destination with as little loss as possible. We should take as great care to prevent heat loss on the way as we are to promote heat transmission when the points are reached.

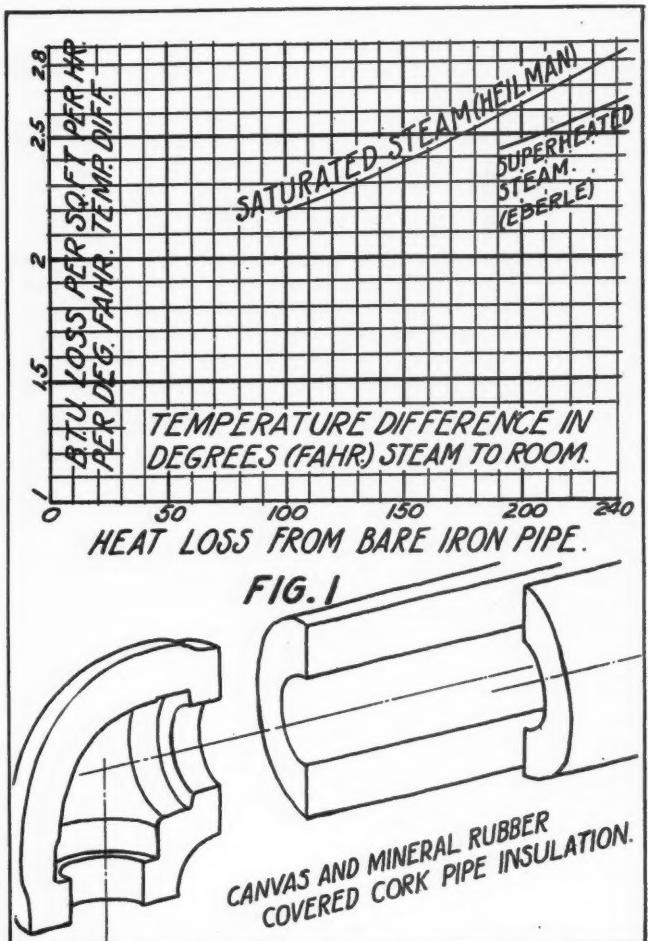
If we are to have the advantages of a long term loan at a low rate of interest, and are to pay off at such an advantageous rate, why not equip at the start for an economical coal bill, or oil bill, or gas bill? When we know that in either heating or cooling the cost of operation is determined largely by the cost of the fuel, why not be ready? We know that the delivery of air volume for cooling purposes is greater than for heating purposes, and that at least two fan speeds are required. But we can be ready for more than just two speeds thereby availing ourselves of further economies.

And we know that in both heating and cooling the location of the air flow from grilles and registers in direction, velocity, and temperature has a great deal to do with the comfort and efficiency of the system. Why not install such grilles as can be adjusted to meet requirements in the best and cheapest ways?

Going back to the old, some would now call it the "rule of thumb," figures, ordinary cast iron radiation was quoted at 240 British thermal units per square foot of radiation, and, if it were hot water heat, at 150 B.T.U. per square foot per hour. In the former it was so accounted because one-quarter pound of steam per hour condensed on the inner radiator surface per square foot per hour, and at atmospheric pressure for the steam it gave up one-fourth of its latent heat of 980 B.T.U. per pound.

Supposing then all of the pipes delivering steam to the radiators were left uncovered or uninsulated in a one-pipe steam heating system. Before the steam was delivered to the radiators it would not only lose a substantial part of its heat but the condensed steam would already have furnished considerable water along with which the radiator condensate would have to take its chances on the way back to the boiler. It might, and it has many times, built up a real blockade for the condensate in the further radiators. How much more sensible it is to insulate the piping with such a means as is shown in Figure 1.

At the top in Figure 1 is shown a graph indicating heat losses per square foot per hour per degree temperature difference between steam and room. A 2 inch

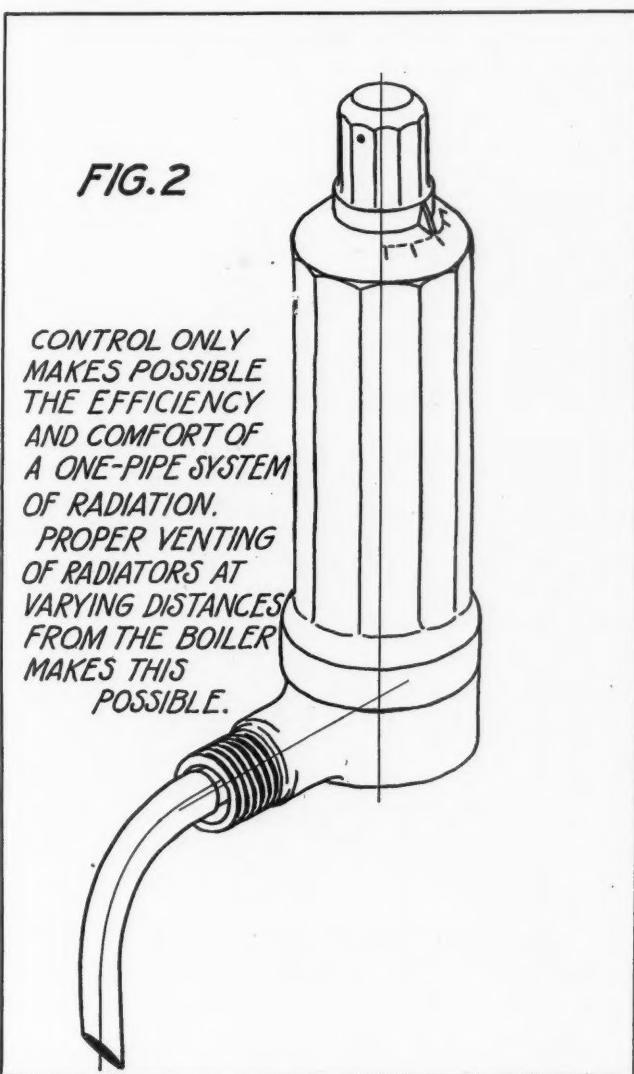


MECHANICAL EQUIPMENT FOR 20-YEAR FINANCED HOUSES

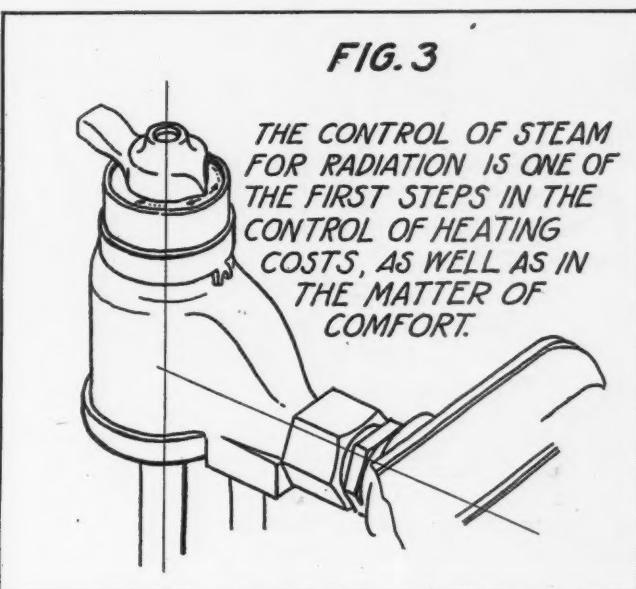
pipe only 1.6 feet long gives a square foot of radiation. A $1\frac{1}{2}$ inch pipe only 2 feet long also gives a square foot of radiation. It does not take much figuring to count the amount of steam condensed and heat lost in the average run of pipe. With built-up insulation ready to put on there is no reason to wonder how much heat you are going to lose in transit.

If a one pipe steam heating system could be installed free from air and entirely free from leakage, and kept so, it would provide a wonderful thing. But so long as there is air in water and frequently a certain amount of leakage, the air must be taken care of. In a one pipe system, if all of the air vents are closed, and the steam continues to condense as the firing drops in the boiler we have a sort of vacuum system wherein the steaming proceeds at a reduction in pressure and firing temperature. But if the vents are not all closed or there is a leak the system pulls air. In the morning it is the office of the steam to drive out the air and condense, and it is the function of the system to see that the air is allowed to get out before any steam escapes from the radiators and that the water gets back without interference to the boiler. Figure 2 represents a secure venting fixture which will take care of the air properly and close when the steam reaches it.

In Figure 3 is shown a radiator valve to control the



heating capacity of the radiator. I can well recall one radiator of my acquaintance that was such that even in severe weather it was necessary to open one or both of my windows after it warmed up. On no occasion could I keep only one partly open. The circulation of hot and cold air in that room was anything but pleasant. If the radiator were shut off for a time a chill ensued, and if it were turned on again a battle followed between the air and the steam and the water. Such troubles



really are not necessary and are not to be tolerated in a home.

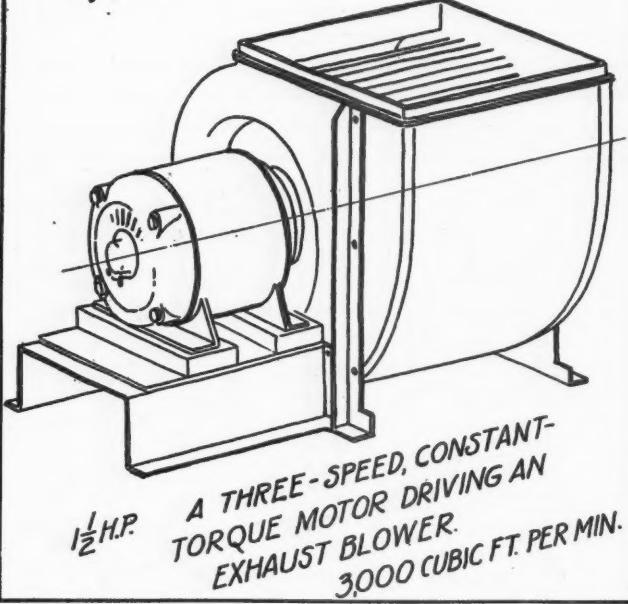
Many homes are now being heated by air. There are many advantages to be named for this system if it is rightly built. The rooms are ventilated as well as warmed, and the whole house is under control when the system is properly planned. Air must be delivered to a room at the proper temperature and percentage of humidity. It must be delivered at a comfortable velocity as well as a velocity that will prevent stratification. And to do this there must be no chance of overloading the motor which drives the fan or blower. At summer loads when an increased fan speed is called for we may change the pulleys. But who can say in this climate, when we are to have a heating or a cooling load? The air conditioning unit can handle either, but it is possible that the pulley changes are not so easy.

We have recently come to a place where the selection of the fan and its drive are easier. In Figure 4 is a constant torque motor of $1\frac{1}{2}$ horse power which has three speeds. In Figure 5 is another drive with varying speeds. And in Figure 6 there is a motor and transmission which will give about anything you will want. These three present but three of several types which are substantially built and ready for the job of delivering or exhausting the air of a system.

In any air conditioning system or warm-air heating job there are times of constant shifting. Velocity, which spells capacity, is controlled by the pressure of the air. Different ducts and different branches may need changes in pressure and, in turn, the whole system is under necessity of change. This cannot always be handled reliably by a fan which travels at one speed only. There

HEATING-AIR CONDITIONING-PLUMBING AND WIRING

FIG. 4



$1\frac{1}{2}$ H.P. A THREE-SPEED, CONSTANT-TORQUE MOTOR DRIVING AN EXHAUST BLOWER.
3,000 CUBIC FT. PER MIN.

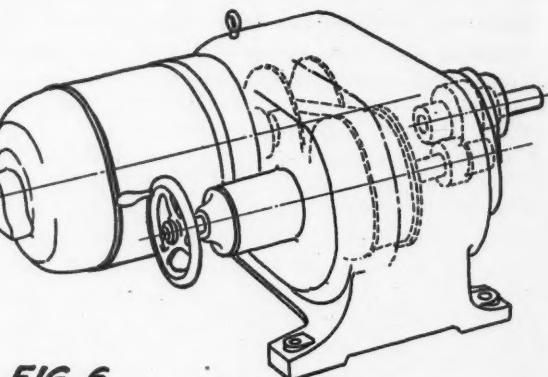


FIG. 6

FAN SPEEDS, VARIABLE BY MEANS OF THIS TRANSMISSION, CAN BE BROUGHT TO DELIVER THE PROPER VOLUME OF AIR.

is a real reason, several reasons, for having a fan equipped for various speeds.

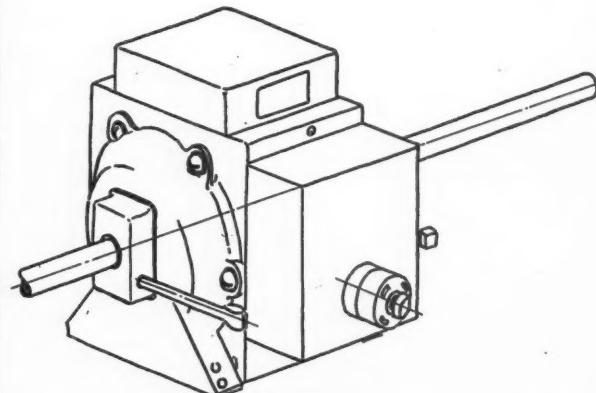
There has grown up through various tests and by experience a typical velocity for heating and another for cooling, and each having its separate speeds for the various locations in the floor, or the base-board, or the upper walls areas. The ranges permissible are conservative estimates and regularly employed with satisfaction. But there is another element which improves on the ordinary design. If the air when delivered is directed from the grille toward various locations rather than one it is possible to step up the velocities with

comfort. At the same time the air is more of an even mixture, a point of special advantage in relatively small rooms.

Figure 7 shows such a grille where the grille bars may be moved independently to fix the direction of flow where it is desired. The grille bars may be placed vertically as shown or they may be in a horizontal plane so that the air can be directed up or down. Both types are available commercially.

In all of these systems it is best to operate, and most economical, where the heating medium is under the most direct control.

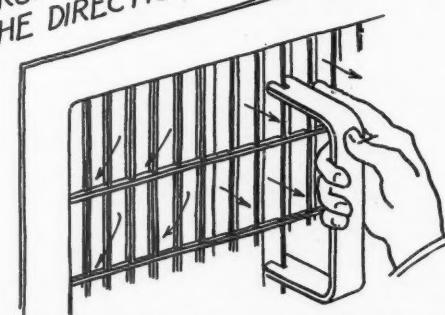
FIG. 5



VARYING SPEEDS IN MOTORS FOR DRIVES IN VENTILATING AND AIR CONDITIONING EQUIPMENT ARE OF GREAT ADVANTAGE AND A CHIEF FACTOR IN ECONOMY

FIG. 7

THE DELIVERY OF AIR AT THE PROPER RATE IS ESSENTIAL, BUT THE DIRECTION OF DELIVERY SHOULD BE CONTROLLED



INDEPENDENTLY ACTING LOUVRES OR GRILLE BARS MAKE VOLUMES AND VELOCITIES OF AIR EASIER TO SOLVE, TO SAY NOTHING OF TEMPERATURES.

90,000 People



BEFORE



AFTER



INSPIRATION HOUSE

The Inspiration House, Memphis, Tennessee, is one of the many model homes in which Bruce Finished Blocks have been used. Already more than 90,000 people have visited this home and placed their stamp of approval on Bruce Finished Block Floors.



ADMIRE THIS
BEAUTIFUL
Block floor

If you want to know what people actually think of Bruce Finished Block Floors, just visit a modernized or model home where they have been used. Listen to the comments of Mr. and Mrs. Prospect as they admire this modern type of hardwood flooring.

Here's what you'll learn: That no feature of a *new or remodeled* home will bring greater beauty, comfort and satisfaction than a Bruce Finished Block Floor. That no matter how beautiful the furniture and furnishings, or how expensive the equipment in a home, it's these distinctive hardwood floors that are most talked about.

Every day, throughout the country, thousands of property owners are learning the story of

Bruce Finished Block Floors—their beauty, durability and ease of installation. Every day, sales are being closed and jobs started.

The trend to patterned hardwood flooring has definitely been gaining momentum, month by month. It promises to be one of the highlights of 1936 building. In justice to your business and your customers, you should investigate the merits of Bruce Finished Block Flooring.

READ THIS OFFER

Because we so strongly believe you'll be interested and enthusiastic, we want you to let us send you an actual sample block, together with descriptive literature and simple laying instructions—with out cost or obligation. Use the coupon below to order these.

MAIL COUPON FOR SAMPLE

E. L. BRUCE CO., Memphis, Tenn.

Please send an actual sample of Bruce Finished Block, together with illustrated literature and Installation Manual. AB-11

Bruce Finished Block
HARDWOOD FLOORING

Contractor Architect Dealer

NEWS OF THE MONTH

Building Activities and Meetings

Plan National Home Shows

A NATION-WIDE series of National Home Shows by the Manufacturers' Housing Display Council and the Federal Housing Administration has been planned to further the interest of the public in housing. The Manufacturers' Housing Display Council is comprised of a group of about 150 national manufacturers of building products and equipment. In each city in which shows are to be conducted, local real estate boards, better housing committees and civic organizations will participate. Each show will be locally financed.

The first of these shows, which will be held in all the important market centers of the country, will appear in Baltimore, beginning Jan. 4. The second is scheduled for San Diego, and will begin on Jan. 15 in connection with the reopening of the America's Exposition. Plans are under way to present National Housing Shows also in Kansas City, Mo., Philadelphia, Pa., Buffalo, N. Y., Houston, Tex., Oakland, Calif., Miami, Fla., Minneapolis, Minn., Louisville, Ky., Milwaukee, Wis., Indianapolis, Ind., and Boston, Mass. Henry Guthrie is in charge of shows for FHA.

Organize Steel Buildings, Inc.

DAVID S. BETCONE and Edward B. Sickle, both of Chicago, have been elected president and vice president, respectively, of Steel Buildings, Inc., a company recently organized for the manufacture and distribution of self-framing, interlocking prefabricated steel homes and commercial buildings.

Steel Buildings, Inc., will sell all the materials, excluding masonry, necessary to complete low-cost modern steel homes. They will not engage in the construction business, though some of its announced purpose is to make it possible for families of modest income to buy improved, modern homes at prices within their normal purchasing power. The homes which have been designed can be completed, including both labor and materials, within a price range of \$1800 to \$4000. Many typical industrial and commercial buildings have also been designed. Sales offices are in Chicago, warehouse in Middletown, Ohio.



Above, D. S. Betcone
Left, E. B. Sickle

Merge Lightning Rod Concerns

THE WEST Dodd Lightning Conductor Corporation, Goshen, Ind., has been formed by a merger of 12 companies which previously accounted for 90 per cent of the lightning rod business. The companies involved in the merger are Dodd and Struthers, Des Moines, Ia.; W. C. Shinn Mfg. Co., Chicago, Ill.; Hawkeye Lightning Rod Co., Cedar Rapids, Ia.; Des Moines Lightning Rod Co., Des Moines, Ia.; Reyburn-Hunter-Foy Co., Cincinnati, O.; Goshen Lightning Rod Co., Goshen, Ind.; St. Louis Lightning Rod Co., St. Louis, Mo.; Miller Lightning Rod Co., St. Louis, Mo.; Barnett Lightning Rod Co., Cedar Rapids, Ia.; Electra Mfg. Co., Chicago, Ill.; Cole Brothers Lightning Rod Co., St. Louis, Mo.; Cripe Lightning Rod Co., Goshen, Ind.

Policies of the new company include a straight manufacturer to dealer set-up with exclusive dealers in all territories; no sales to mail order houses or direct to consumer, close supervision of all dealer outlets to insure proper installation.

Elect Building and Loan Officers

L. W. PELLETT of Newburgh, N. Y., was elected president of the United States Building and Loan League at the recent Annual Convention held in Cincinnati. Mr. Pellett succeeds I. Friedlander of Houston, Tex., and is executive secretary of the Building and Loan Association of Newburgh. Harold T. Donaldson of Lansing, Mich., was made first vice president and Edward C. Baltz, Washington, D. C., second vice president.

Crane Appoints New Advertising Manager

CRAINE CO., Chicago, has announced the appointment of H. H. Simmons as advertising manager, effective Nov. 15. In cooperation with other aids to selling, such as exhibits, dealer service, special campaigns, and sales training, he will develop the advertising service so that it can be fitted into the general sales promotional program. To take up his new responsibility, Mr. Simmons terminates a nine-year association with Russell T. Gray, Inc., Chicago advertising agency, of which he has been vice president and account executive.



H. H. Simmons

Celotex Reorganization Completed

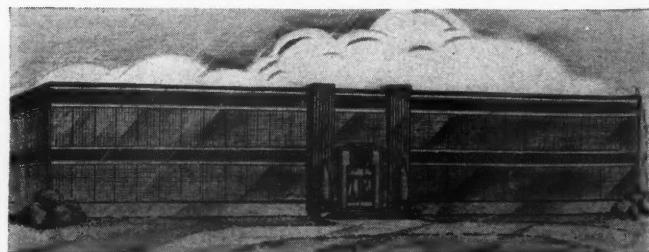
RORGANIZATION of Celotex was completed on Nov. 6 when the business and properties of the old company were taken over by the new company, The Celotex Corporation. The reorganization was consummated under the plan approved by a majority of stockholders, security holders and creditors, and confirmed by Judge John P. Nields in the Delaware United States district court. Celotex is one of the first large companies to be reorganized under section 77-B. B. G. Dahlberg, president, declared that there will be no change in the fundamental Celotex merchandising policy toward its dealers.

New Laboratory for Owens-Illinois

TO BE BUILT entirely of glass blocks in a new style of architectural design, a new laboratory of the Owens-Illinois Glass Company at Toledo, Ohio, will be a modern wonder of air conditioned comfort and natural lighting. Although the building will have no windows, natural light will be diffused abundantly through the glass blocks to all parts of the structure, the designers said (see sketch below).

Roof of the building is insulated with glass wool against heat flow and for acoustical properties, while the air conditioning system will use glass wool air filters to keep out the dirt. The structure will be two stories high, have a frontage of 140 feet and a depth of 100 feet.

This laboratory will be devoted to packaging research. The Owens-Illinois Glass Company maintains two other completely equipped research laboratories. One of these at Alton, Ill., has to do with manufacturing research in glass and in the development of mechanical improvements in manufacturing processes. The company's research laboratory at Newark, Ohio, is devoted to industrial material research, including the development of glass wool for insulation and filters and glass silk for application in a wide field of industrial uses.



New Owens-Illinois laboratory at Toledo built of glass blocks.



An International 2 to 3-ton Model C-40 Truck making a delivery at Waukegan, Ill., for the Rockwell Manufacturing Company, Milwaukee lumber and millwork concern.

While the Entire Truck Industry Gains 29% International Trucks Register Remarkable Gain of 73%

AS this announcement goes to press R. L. Polk & Company, official statisticians of the automotive industry, provide U. S. new-truck registration data for the first nine months in 1935 against the same period in 1934. International advances 73.3%—all trucks together advance 28.6%. No other leading truck, *regardless of size or price*, equals the gain made by International.

Trucks are bought for practical reasons, and the rising tide of demand is for INTERNATIONAL. Fix that emphatic preference in your mind when you buy trucks. Make your truck investment simple, safe, and sure. The 231 International branches, and thousands of dealers, are at your command with International Trucks for all hauling needs.

International sizes range from Light-Delivery to powerful Dump and Tractor-Trucks, starting with $\frac{1}{2}$ -ton 6-cylinder chassis at

\$400 f.o.b.
factory

Consult any International Branch
or Dealer

INTERNATIONAL HARVESTER COMPANY
OF AMERICA
(Incorporated)

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Chicago, Illinois

INTERNATIONAL TRUCKS

Make the Basement your Sales Clincher

Five million homes are going to be built . . . twenty million homes are ready for modernization. That's the ready market. GAR WOOD Industries offers builders a better way to build homes . . . and an easier way to sell them. Home equipment in the basement is today's sales clincher. GAR WOOD Automatic Oil Heating and Air Conditioning Systems are lowest in operating costs according to owners, who say GAR WOOD Heat costs less than coal. Write or wire us today for free literature and "Heating Data" about GAR WOOD Heating and Air Conditioning Systems.

**STEP OUT
FROM
THE CROWD**

**BUILD HOMES
THAT SATISFY**

**ANY HOUSE
WITH A
Gar Wood
SYSTEM
IS A
BETTER
HOME**

The GAR WOOD Tempered Aire Automatic Oil Furnace and Air Conditioning Unit

Air Conditioning Division
GAR WOOD INDUSTRIES, INC.
 7924 Riopelle Street . . . Detroit, Michigan
 WE ARE COOPERATING WITH THE FEDERAL HOUSING PROGRAM

NEW PRODUCTS

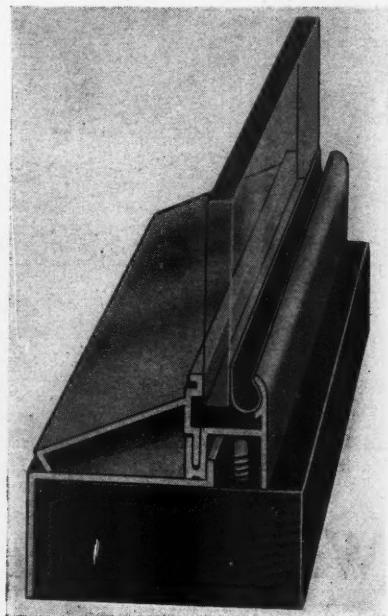
FOR INFORMATION ABOUT any new product write the American Builder Information Exchange, 105 West Adams Street, Chicago, Ill.

New Kawneer Store Front Construction

A NEW store front construction in extruded aluminum or bronze, introduced by The Kawneer Company, of Niles, Mich., features extreme simplicity and continuous spring grip. It is revolutionary in many ways.

The new store front sash consists of 3 parts: a self-supporting gutter, an interlocking face member, and a sturdy, resilient and continuous spring which, when inserted in the gutter, pushes the glass outwardly against the face member.

The advantages of this change are reported as: perfect miters and sight lines because the glass is aligned with the face member instead of the gutter, as in the past; the use of glass of varying thicknesses without difficulty on the same job since the glass lines up on the outside face; elimination of caps; continuous spring grip, absolutely even pressure, avoiding concentration, one of the most common causes of glass breakage; greater ease, precision and economy of installation; self-supporting sash; better drainage and ventilation; attractive modern lines.



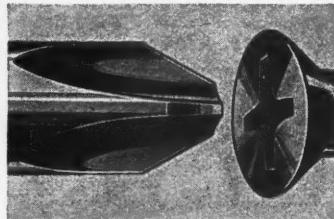
Sectional drawing showing construction

Phillips Screws and Bolts

THE American Screw Company of Providence, R.I., has introduced a line of screws and bolts known as Phillips recessed head self-centering screws and bolts. In the Phillips head a tapered recess which exactly fits a tapered driver takes the place of the slot in the ordinary screw.

The Phillips screw holds on the point of the driver and may be moved into position for driving with one hand, a feature of particular importance when driving in "hard-to-get-at" places. Because of the self-centering feature, it is claimed that there is three times as much purchase between driver and screw as there is between the ordinary driver and the slotted screw. Also there is no danger of the driver slipping sideways and marring the work or injuring the hands.

No pilot holes are required in driving Phillips screws unless it is necessary to remove enough wood to prevent splitting, since the snug, straight-line fit of the Phillips screw on the end of the driver provides positive control of the direction in which the screw is driven. Four sizes of Phillips drivers or bits are necessary to drive the entire range of screw sizes, two drivers fitting sizes most commonly used.



Phillips recessed head screw and special tapered driver

Send for FREE book

IT'S A helpful handbook of store front facts. Contains complete information about Pittco Fronts: price data, "before and after" photographs of actual Pittco-remodeled properties everywhere; and in many cases, statistics on business improvement, increased revenues, etc., due to Pittco-remodeling. Send the coupon for your free copy of this valuable book . . . today.



Pittsburgh Plate Glass Company,
2322A Grant Building, Pittsburgh, Pa.

Please send me, without obligation, your new book entitled "How Modern Store Fronts Work Profit Magic".

Name _____

Street _____

City _____ State _____

MAIL THIS COUPON . . . TODAY!



FOR TEN YEARS the first floor of this well-located property in Houston, Tex., lay vacant and unproductive. Then Architect Maurice J. Sullivan and Contractors West and Jensen remodeled it with new Pittco Store Fronts. Many applications for leases were immediately received, and today, all the stores are profitably rented. Tell the merchants and property owners in your community the advantages of Pittco-remodeling . . . and cash in on the "Modernize Main Street" movement.



BUILDING contractors from coast to coast find it good business to standardize on the use of Pittco Store Front Products when working on store remodeling jobs. For these products, and the store fronts they build, are certain to be more than usually satisfactory, both to your clients and yourself. Clients like their good looks, smartness, appeal . . . the attractiveness that draws more business to merchants, boosts revenue for property owners. And you will like the way in which one Pittco Store Front you

have built will lead to others . . . a Pittco Store Front is one of the best possible advertisements for your quality work. For client satisfaction and your own profit, use Pittco Store Fronts in "Modernizing Main Street".



PITTCO
STORE FRONTS
glass... metal... paint
PRODUCTS OF
PITTSBURGH
PLATE GLASS COMPANY



Use this

Improved Method of FIREPLACE Construction

**INSURES
SMOKELESS
OPERATION ...**

Circulates Heat

HERE is the way to build a fireplace that is an efficient heating unit as well as the decorative feature of the room. The Heatilator is a steel heating chamber hidden in the fireplace—scientifically designed for smokeless operation. Cold air is drawn from the floor into this heating chamber, warmed, then circulated to every corner of the room and to adjoining rooms. It cuts months off the heating season and dollars off the fuel bill—by providing living comfort during chilly spring and fall weather. In mild climates and for summer homes and camps it is the only heating equipment required.

The Heatilator is a correctly designed metal form around which the masonry is easily laid. Complete from floor to flue, it replaces firebrick, damper and other materials. Yet it does not limit the design of your fireplace or the type of masonry you wish to use.

Thousands of Heatilator Fireplaces are now in successful use in homes and camps throughout the country. Builders have found them an extremely effective talking point. Heatilators are sold by leading building supply dealers—with stocks in principal cities for quick delivery. Send coupon for complete details, including suggestions for fireplace designs.

Heatilator Fireplace

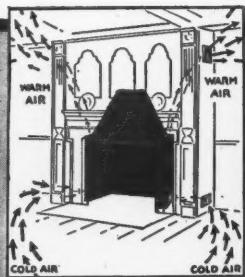
HEATILATOR COMPANY
519 East Brighton Ave.
Syracuse, New York

Please send booklet of Heatilator information and fireplace design suggestions.

NAME _____

STREET _____

CITY _____ STATE _____



New Commercial Dunbrik Machine

THE W. E. Dunn Mfg. Company of Holland, Mich., has recently added to its line of concrete products machinery a new improved model (shown below) called the Commercial Dunbrik Machine. This new machine requires only an off-bearer to remove the finished product which is delivered to him on an endless carrier at the rate of 32 per minute.

The mixed sand and cement is discharged directly into an



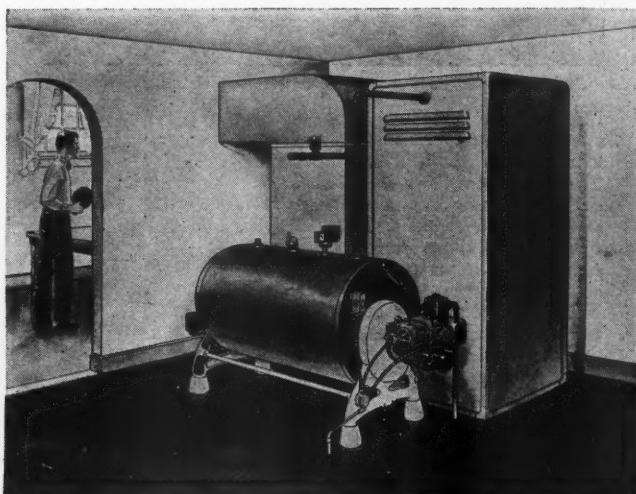
open bottom hopper of the machine, under which passes a continuous belt of electrically cast steel mold boxes which, in turn, passes under the tamping and troweling mechanism of the machine. This tamping and troweling mechanism is built into an accurately machined one-piece casting and each tamper and troweling arm operates on a specially designed set of roller bearings which are provided with hardened sleeves, dust-proof covers and large grease reservoirs. Each tamper and trowel delivers 600 strokes per minute and each tamper is capable of exerting a blow of six tons. The machine is operated by a 2 H.P. motor.

Air-O-Matic Conditioning System

THE Williams Oil-O-Matic Heating Corporation has announced the development of a year 'round air conditioning system to be known as "Air-O-Matic." Low pressure steam, which is usually provided by an Oil-O-Matic oil burner, is supplied directly to a copper-finned heating coil within the central air distributing unit for heating service, which can be supplemented by direct radiation if desired. Proper provision for the addition of moisture is provided for winter heating service.

This same low pressure steam, through an especially developed absorption refrigeration unit, provides the proper degree of temperature and humidity reduction for summer comfort. A change from winter to summer operation can be effected almost instantaneously by means of a master control.

Seven different sized units ranging in capacity from 4 to 35 tons are now available.



Williams Air-O-Matic year 'round conditioning system



New 1 1/2 ton Reo Economy Truck

Definite, Proved Reo Economies Cut Your Trucking Costs

In the cost records of some 90,000 owners of Reo Speedwagons and Trucks, you'll find a history of money-saving that has few parallels in the industry.

Everywhere, in all phases of truck operation—retail stores, farmers, bus companies, bakers and brewers—Reo trucks have proved their ability to make fast hauls and deliver capacity loads with remarkable savings in gas, oil, tires and general maintenance charges.

Owners operating several makes of trucks have had ample opportunity to compare. Without exception they pronounce Reo running costs lower—and are backing up

their judgment by buying additional Reo trucks as needed.

Reo money-saving stretches over a long period because Reo Speedwagons and Trucks are built to last. In the Reo 1 1/2-ton economy truck, an extra heavy frame, full-floating rear axle, large hydraulic brake area and long springs are coupled with a husky Silver-Crown Engine that greatly extends the range and dependability of service.

Now at Reo's new all-time low prices, Reo's 15 truck superiorities are available to every business. Be sure to check Reo features and Reo guaranteed performance before you buy any new truck.

\$ **445*** AND UP

* $\frac{1}{2}$ -Ton Chassis f. o. b. Lansing, plus tax.

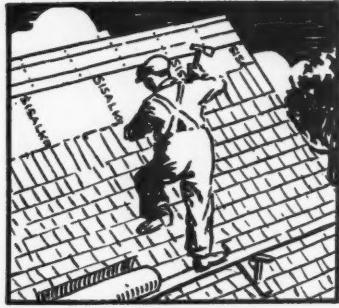
Reo Speedwagons and Trucks range from $\frac{1}{2}$ to 4-6 tons including Tractor-Trailers and Buses. Prices from \$445 up, chassis f. o. b. Lansing, plus tax. Special equipment extra. Prices subject to change without notice. Write Reo Motor Car Co., Lansing, Michigan, for information.

REO
SPEEDWAGONS
AND TRUCKS

SISALKRAFT

Keeps a House Snug and Tight

THE desired combination of strength, toughness and lasting water-and-air proofness makes SISALKRAFT a logical recommendation for all building papers.



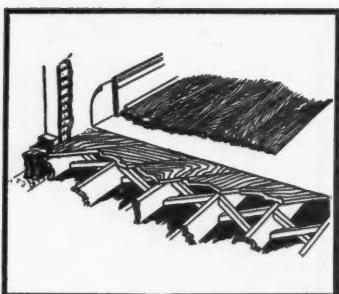
A ROOFING RECOMMENDATION FOR YOU TO MAKE:

Effective protection under roofing. SISALKRAFT is a dry sheet—not a finished roofing paper. It stops the water that is forced under shingles by a high wind—that leaks through because of hail storm damage—or that backs up from melting snow and ice in gutters and valleys.

A FLOOR RECOMMENDATION FOR YOU TO MAKE:

SISALKRAFT under hardwood floors—to prevent absorption of moisture from the sub-floor—and to keep dust and dampness from penetrating up into living quarters. It resists accidental hammer blows—and men walking over it cause no damage. Its clean surface will not stain flooring. Note bottom illustration: By turning Sisalkraft up under the baseboard,

- (1) it makes an effective air stop at the floor line and
- (2) it protects the back of the baseboards from moisture.



WHY YOU SHOULD RECOMMEND SISALKRAFT:

Because it is a broad-use product that will help to produce a better home for your customer. Because it will make his home warmer in winter, more comfortable in summer and because it will make his home draughtless,

clean and dry throughout the year. AND because you can use Sisalkraft in many ways on every job: Covering material, wind breaking, enclosures, etc.

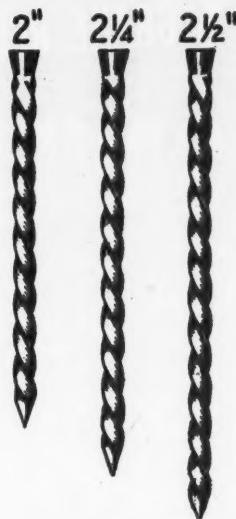
Ask your lumber dealer for Sisalkraft samples to show your customers. Have them test its toughness, its wind and water resisting features. Or write us for samples—and give us your lumber dealer's name, too.

THE SISALKRAFT CO.
205 W. Wacker Drive, Chicago, Ill.
101 Park Ave., New York 55 New Montgomery St., San Francisco

Helyx Drive Screws

THE Hillwood Manufacturing Co., 21700 St. Clair Ave., Cleveland, is marketing a complete line of Helyx Drive Screws for various construction purposes. Four types of screw are listed: floor screws for standard, strip or parquet hardwood floors; concrete screws for attaching wood, steel or insulation to concrete or mortar; drive screws for fastening wood to wood; heavy duty type for attaching wood to steel.

All of these products are set into place with a hammer and turn while being driven to give a screw-like hold. Each of the types is made in the various sizes required for its purpose.

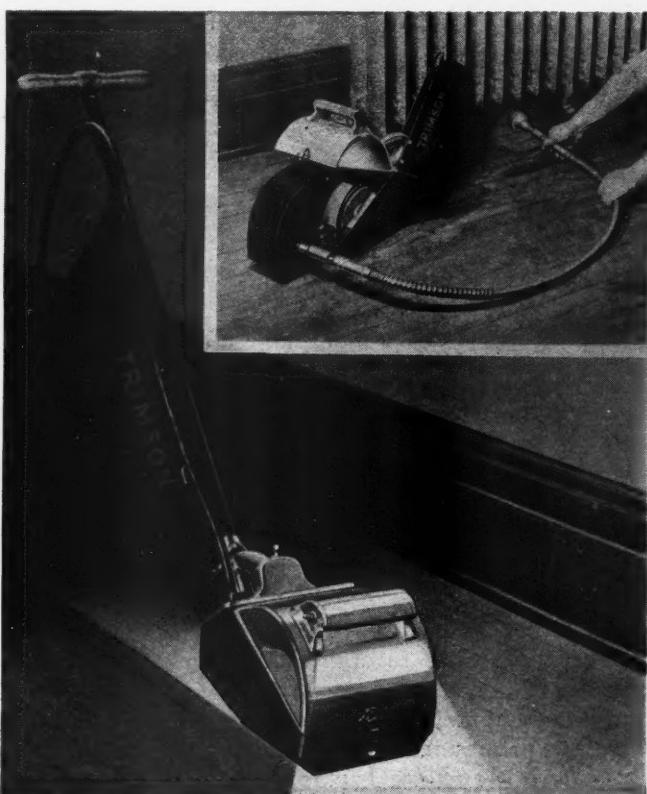


Drive Screws

New Floor Sanding Machine

A PORTABLE floor surfacing machine, adaptable to many finishing jobs, is being marketed by the Trimson Manufacturing Company, 5713 Euclid Ave., Cleveland, Ohio. Some of the features, as shown by the accompanying photograph, are direct illumination on the work, trimlined compactness, centralized control, unit construction, and multiple adaptation for an unusual number of refinishing jobs. In reality, several machines are combined in one, with ample power to produce satisfactory results.

A packaged power unit that is easily and securely attached converts the new Trimson surfacing machine into a time-saver for many operations. The power unit permits the mounting of a number of working tools for sanding, drilling, grinding, buffing, polishing, etc., and saves many hours of hand labor in the shop or on the job. A flexible shaft may be attached to the power unit, enabling the operator to get into corners, under radiators, and numerous other places.



THE

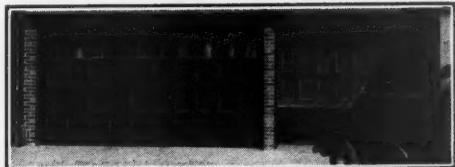
"OVERHEAD DOOR"

GARAGE - FACTORY - WAREHOUSE

From the Home Garage to the Largest Airplane Hangar

**THE
OVERHEAD DOOR CORPORATION
AND OUR ENTIRE NATIONAL SALES SERVICE ORGANIZATION
EXTEND TO THE
BUILDING PROFESSION**

A Merry Christmas and a Happy New Year



OVERHEAD DOOR CORPORATION • HARTFORD CITY, INDIANA U.S.A.

DUNBRIK LOWERS BUILDING COSTS

GETS THE BUSINESS

DUNBRIK products made it possible for the contractors in the Lancaster, S. C., area to reach new, low-cost levels in permanent construction. This lower cost level stimulated building activity in that territory and again offers definite proof of the increased demand the country over for permanent, fire-safe building material when sold at prices that meet today's conditions.

ORDERS EXCEED PRODUCTION

Tom Belk, a former contractor, equipped a plant to make DUNBRIK exclusively for this territory. Almost from the day he started, orders exceeded his production. The recognition accorded DUNBRIK'S superior qualities by Lancaster contractors and builders enabled Mr. Belk to sell 80% of the brick in his territory. In other localities where DUNBRIK is manufactured, similar records have been achieved.

YOUR OPPORTUNITY

Let us show you how this DUNBRIK Line Production Machine revolutionizes brick making and produces a better brick at new unheard of low costs;—how this lighter weight, better brick cuts building costs wherever made, enabling DUNBRIK Manufacturers to get the cream of the business in their territories;—and how the DUNBRIK exclusive franchise protects your business and your future. Write for complete story. Ask for "4 Keys to Success."

W. E. DUNN MFG. CO.

450 W. 24th St.,

Holland, Mich.

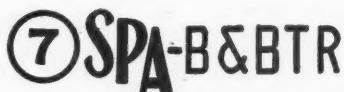


*Insure Your Specifications and
Protect Your Workmanship with*

GRADE-MARKED SOUTHERN PINE

Grade-Marked Southern Pine is lumber which has the grade itself, the identity of its manufacturer, and the symbol of the Southern Pine Association which supervises the grading, stamped on every piece.

When you specify Grade-Marked Southern Pine to be used in construction for which you are responsible, every piece delivered may be checked against your specifications by marks like this . . .



Grade-Marking is a protective practice instituted and policed by the Southern Pine Ass'n. License to grade-mark under its regulations is extended only to member manufacturers whose plants and products are representative and whose grading is accurate. The net value of this protection is that it enables you to specify, and secure

BONDED LUMBER

Endorsed with the Signature of Its Maker

This protection and the superior structural advantages inherent in correctly manufactured and seasoned Southern Pine, provide a building material which qualifies under the exacting specifications of Federal or private lending agencies.

For quotation on Grade-Marked Southern Pine material bills, see your retail lumber dealer. For your guidance and ready reference, a complete file of Southern Pine Grading Rules, Specifications and other technical data will be mailed on request. Just address . . .

Southern Pine Association

Interstate Bank Building
New Orleans, Louisiana



New Kinnear Steel Rolling Grille

TO MEET the demand for a protective device for all types of door and window openings in commercial, industrial, residential buildings, the Kinnear Manufacturing Co., Columbus, Ohio, is making a new steel rolling grille.

Without the sacrifice of air, light or vision, the Kinnear rolling grille provides a reliable safeguard or an impassable barrier against trespassing, burglary, and kidnapping. The grille proper is composed of round steel bars connected by ornamental pressed steel links. The apertures in the grille are made small enough so as not to permit the admittance of a man's hand or projectiles. It coils on a heavy barrel above the lintel and is locked in and travels in guides mounted on the sides of the opening. Helical springs enclosed in the barrel provide accurate counterbalance. It can be operated manually, mechanically by means of crank or operating chain, or electrically.



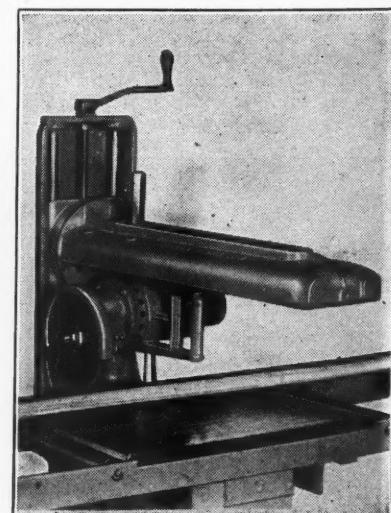
Kinnear grille installation for Pepsi-Cola Co., N.Y.

Wallace Radial Saw

A NEW model No. 1 radial saw is being marketed by J. D. Wallace & Co., Chicago manufacturers of portable wood-working machines. New features in its design include such facilities as: quicker to set at indicated angles; stops provided for most used angles; quicker locking; more durable and powerful $\frac{3}{8}$ H.P. motor; new roller table.

The saw with standard 8-inch diameter blade cuts $2\frac{1}{2}$ inches thick, 9 or 10-inch blades cut 3 or $3\frac{1}{2}$ inches thick. It comes either with a cast iron stand or a roller conveyor table. A new type of hardened steel gears with spiral teeth is used to transmit the power efficiently and quietly to the saw blade.

When cross cutting, the stock lies flat on the table, and the saw travels through the stock at any angle, right or left. For ripping, the motor head is turned and set at the desired distance, locked, and the stock fed through. Routing is done with the motor head turned vertically.



New model radial saw made by J. D. Wallace & Co., Chicago

GET YOUR SHARE OF THE CELOTEX MARKET!

WITH the gratifying increase in building and modernizing, the Celotex dealer is in the fortunate position of having a product already widely used and favorably known as the ideal four-purpose material.

Since Celotex has demonstrated its outstanding advantages as insulation, as a building material, as interior finish and as a sound quieting material, Celotex dealers offer their contractors and customers a product that serves both the new home builder and the owner of old property.

Moreover, the long list of Celotex Products that cover both the new building and remodeling fields, city and rural, places the Celotex dealer squarely in the way of profitable business in these growing markets.

There's money in Celotex—dealers are experiencing that every day. Are you getting your share?

Talk with your Celotex representative and let him show you how to increase your business with Celotex. Or, write direct.

HERE ARE SOME OF THE PROFIT MAKING CELOTEX PRODUCTS:

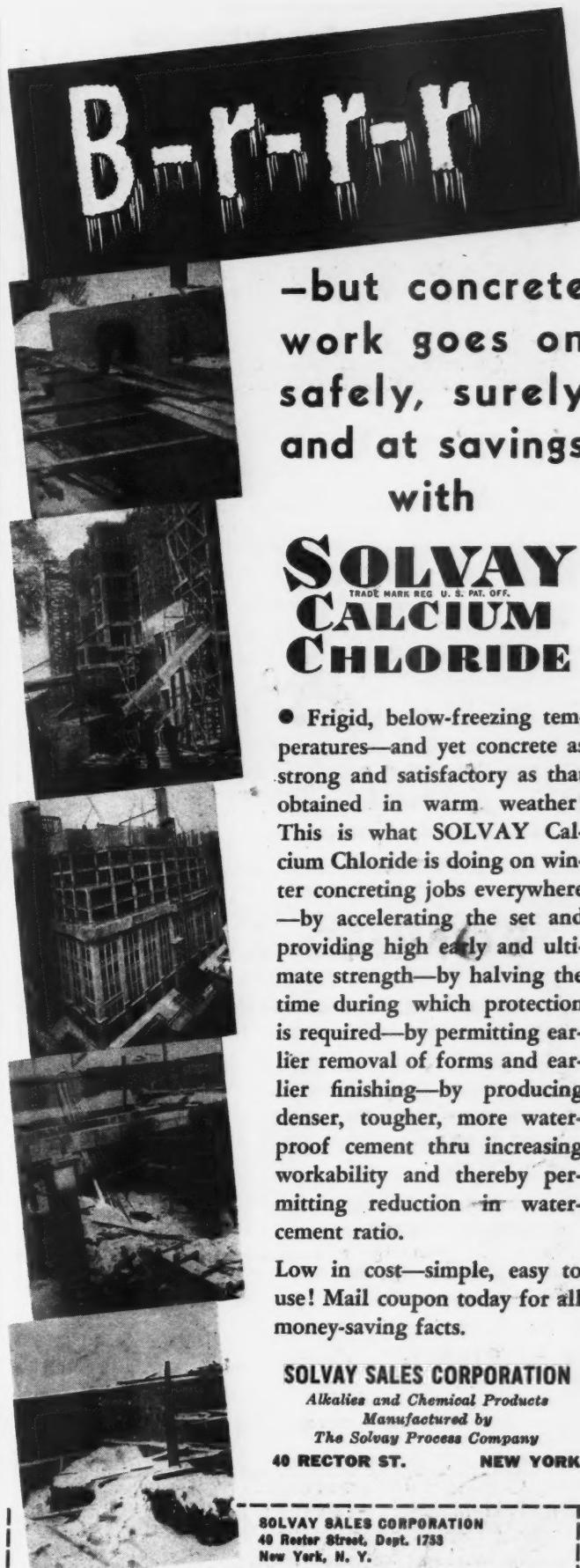
- Celotex Building Board
- Celotex Interior Finish
- Celotex Lath
- Celotex Sheathing Board
- Celotex Finish Plank
- Celotex Tile Board
- Celotex Hard Board
- Celotex Panel Board
- Celotex Tempered Hard Tile

THE CELOTEX CORPORATION

919 No. Michigan Avenue, Chicago, Illinois

CELOTEX
BRAND
INSULATING CANE BOARD
Reg. U. S. Pat. Off.

BUILDS • INSULATES • DECORATES • SUBDUES NOISE



**-but concrete
work goes on
safely, surely
and at savings
with**

SOLVAY TRADE MARK REG. U. S. PAT. OFF. CALCIUM CHLORIDE

• Frigid, below-freezing temperatures—and yet concrete as strong and satisfactory as that obtained in warm weather! This is what SOLVAY Calcium Chloride is doing on winter concreting jobs everywhere—by accelerating the set and providing high early and ultimate strength—by halving the time during which protection is required—by permitting earlier removal of forms and earlier finishing—by producing denser, tougher, more waterproof cement thru increasing workability and thereby permitting reduction in water-cement ratio.

Low in cost—simple, easy to use! Mail coupon today for all money-saving facts.

SOLVAY SALES CORPORATION

Alkalies and Chemical Products

Manufactured by
The Solvay Process Company

40 RECTOR ST. NEW YORK



SOLVAY SALES CORPORATION
40 Rector Street, Dept. 1733
New York, N. Y.

Gentlemen: Please send me complete information on SOLVAY Calcium Chloride in Cold Weather Structural Concreting.

Name _____

Address _____



**Does Whole Job
from rough lumber to
finest trim and finish**

New Model "A" Planing Mill Special

**\$685 Without
Power**

With 8 machines in all, each full-sized and each independently operated, the New Model "A" gives largest working surface of any combination machine.

Small space, no excess weight, all bearings high-grade ball bearings, built for lasting service.

*Send for catalog of our complete line of individual
and combination machines*

THE PARKS WOODWORKING MACHINE CO.
Dept. BL-12 1524 Knowlton St. Cincinnati, O.



Illustrations show Kling-Tite Tacker
and method of using it for applying
insulation.



The Modern Way to Tack

Insulation—Building Paper, Etc.

MODERN types of insulation, canvas, building paper, screens, etc. can be tacked faster with less effort with Kling-Tite, the Automatic One-Hand Tacker. Leaves one hand free to hold materials. Drives as fast as the hand can grip. No tack-splitting. The modern way to tack! Ask for Folder!

A. L. HANSEN MFG. CO.
Kling-Tite 5051 Ravenswood Ave.
CHICAGO, ILL.

LETTERS from readers on all subjects

Facts, opinions and advice welcomed here

Low-Cost Homes the Key

Beaver Dam, Wis.

To the Editor:

When your publication gets behind moderate-priced homes and helps the dealer with plans and such other information as is given in your October issue, it is performing a real service—not only to the dealer but to the public in general.

It is moderate-priced homes that this country needs and must have. In the writer's opinion, we are on the verge of one of the biggest building booms this country has ever seen. It is only to be hoped that manufacturers (and labor as well) do not lose their heads and boost prices to where they will slow down the activity on homes.

You ask for suggestions and I would like to inject this thought. Mr. Holt of the National Retail Lumbermen's Association has an estimating system that has proven a boon to the dealer—quick accurate means of determining cost. We can, of course, determine that cost from just the illustration you give, but we could work even faster if the Holt "key" were given.

May I suggest that you submit these suggestions to Mr. Holt who will build up the key and permit its use at only a nominal cost?

In conclusion, may I urge that you continue this small plan service covering houses ranging in price from \$1000 to \$2500 above the wall, including the plumbing.

C. A. STARKWEATHER.

Contends Lower Wages Don't Help

Springfield, Ohio.

To the Editor:

I have been following with a great deal of interest, the discussion in your magazine, about ways to stir up a revival of the building industry.

Among the ways suggested was the idea that the building trades should take much lower wages and by so doing cause a greater volume of construction and by that gain steadier employment.

The theory is a fine one, and should gain for those who propose it, a leading position in Washington among the other brain trusters.

A careful look about the country will show that that idea is only an idea, and has no basis in fact.

If the idea of low wages would be correct, then all of the small towns such as this and many others would be centers of great activity, and at the same time all of the big cities would be practically dead.

At the present time there is actually more residential and apartment building going on in the larger centers of population where wages are much higher, than there is in the smaller cities and villages where no one in the building trades has objected so far to working for subsistence wages.

You speak in the November issue of the lack of building in the rural districts, and yet good men in all of the building trades are to be had in the farming sections for forty and fifty cents per hour.

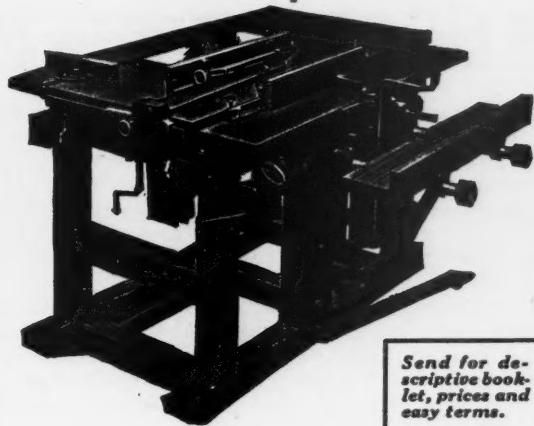
If you doubt the truth of the above statement just go out into the real rural districts and get figures on labor for building some small house that you may have in the files of your magazine.

This small town has had five residences built in three years, population last census 68,743 and increasing about 400 each year, and yet carpenters are working for sixty cents per hour and most of the bricklayers are on relief, and will work for less than that.

I know it is a great temptation for the amateur executive to start to economize by cutting the payroll, for that usually is the largest item of expense in any line of industry, but by so doing he shows his absolute lack of foresight.

(Continued to page 66)

There's No Economy in Worn-Out—Out of Date Machinery



Send for descriptive booklet, prices and easy terms.

Modernize your equipment with Monarch machines on our present low price, easy term plan, an opportunity that may never come again.

Install a Monarch Variety Woodworker and enjoy the efficiency of this four-in-one machine—cut off and rip saw with boring attachment, mortiser and jointer.

Other big time and money-saving machines include jointers, band saws, lathes, and the marvelous 20th Century Woodworker.

AMERICAN SAW MILL MACHINERY CO.
60 Main Street Hackettstown, N.J.

AMERICAN STEEL SHEETS
FOR ALL KNOWN USES



KEYSTONE Copper Steel Sheets
Excel in the Building Field

Use sheets of recognized reputation and value. For roofing, siding, gutters, spouting, air conditioning systems, and general sheet metal work—Keystone Copper Steel gives maximum rust resistance.

Insist upon AMERICAN Black Sheets, Keystone Rust Resisting Copper Steel Sheets, Apollo Best Bloom Galvanized

Sheets, Galvannealed Sheets, Heavy-Coated Galvanized Sheets, Formed Roofing and Siding Products, Terne Plates, etc. Write for information.

This Company also manufactures U.S.S. STAINLESS and Heat Resisting Steel Sheets and Light Plates for all uses to which these products are adapted.

AMERICAN SHEET AND TIN PLATE COMPANY, Pittsburgh, Pa.

SUBSIDIARY OF UNITED STATES STEEL CORPORATION

Don't Go Half Way!



Equip RÖL-TOP DOORS with this dependable ELECTRIC OPERATOR

Electric Magic! The only way to describe the RÖL-TOP Motor Operator. Designed as a companion to the renowned RÖL-TOP Door . . . but a simple, compact and dependable unit suited to any sectional upward-acting door. Fitted with key or push-button stations, or the new Kinnear Photo Electric Unit, it affords remote or automatic door control. Think of the additional convenience! So why not make your door installations fully modern by recommending and using the RÖL-TOP Motor Operator.

When used with RÖL-TOP Doors you have the perfect combination . . . equipment that is moderately priced, easily installed and permanent. The RÖL-TOP Operator is simplicity throughout. Nothing to cause trouble. Fool-proof. And yet, embodies the finest in operator design . . . automatic brake, safety clutch, electrical reversing motor and other such advanced features.

DOORS and OPERATORS FOR ANY OPENING

RÖL-TOP Equipment is a necessary convenience for the modern residence. But it's equally valuable for any commercial or industrial opening—garages, factories, warehouses, etc. It speeds up service, saves labor time and heat and cuts door maintenance costs to a minimum. Built in any size and easily installed in old or new buildings. And don't forget that Kinnear also builds the famous KINNEAR Steel Rolling Door.

Branch Offices and Agents in All Principle Cities.

**SEND FOR
DETAILS
TODAY**



The **KINNEAR MFG. CO.**

1560-80 Fields Avenue, Columbus, Ohio

Please send me complete information on the RÖL-TOP Motor Operator. Also details on Kinnear's full line of door equipment.

Name _____

Business Address _____

City _____

State _____



In old homes or new, whether for renting or selling, "PERFECTION" BRAND Oak Floors give service and satisfaction. The greatest value for the money.

Take advantage of the new Housing Administration Act and sell good Oak Floors on your modernizing jobs.

"PERFECTION" BRAND Oak Flooring as furnished by your local dealer is carefully manufactured from selected timber, scientifically seasoned and kiln dried, easily finished. Ask your dealer today to show you the "PERFECTION" BRAND.

Complete information is yours for the asking. Write us today. Sold only through retail lumber dealers.



ARKANSAS OAK FLOORING CO.
PINE BLUFF

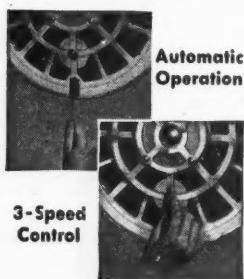
ARKANSAS

Cooking Odors BANISHED!

Sales Appeal Plus!

For Both New and
Old Homes!

**THE VICTOR IN-BILT
Ventilator**



DISTRIBUTORS!

A Few Open Territories are waiting for wide-awake contractors and Building Material Dealers. Exclusive franchise includes wonderful promotion plan that helps build your entire modernizing business. Handsome profits certain—ask for Distributor Franchise Plan—act quick.

NO kitchen is truly modern unless it is equipped with an efficient electric ventilator. Cooking odors are a disgrace to any home and, besides, the greasy fumes that spread all through the house are the main cause of expensive cleaning bills. That's why women are so enthusiastic over a home that has a kitchen ventilator. It's a feature that adds more sales power per dollar than anything you can use.

Only Victor Provides These All-important Advantages!

The Victor Ventilator is built to do a real job. It has beauty—performance—convenience—dependability and price. Without question, it is the finest Ventilator made and one look at it is all you need to prove it is the Ventilator you want installed in the homes of your customers. Get complete information on the Victor In-Bilt now—write for literature and prices today!

Victor Electric Products, Inc.
740 Reading Road, Cincinnati, O.

Letters Dept.

(Continued from page 64)

The American working man is a spendthrift and the more he has the more he will spend, the less he has then the less he spends and the collectors hound his doorstep.

Bankers will tell you that almost all of the money paid out in payrolls on Friday is back in the banks by the following Tuesday, through the hands of the small merchant that cater to the workers' needs.

On this fact is the basis of all of our prosperity, which depends on the amount of money in circulation, and it is further proved by what happened to the farmers.

The whole trouble with things today lies in where the little fellows are spending their money, and until they change their line of thinking, the gasoline and automobile companies will continue to prosper, and the rest of the business world will have to take what is left.

So I say again, prosperity does not depend upon the volume of business done, but does in a very large way, depend on the amount of money in circulation, and if you give it to the working man or farmer, it will certainly be put into circulation.

PAUL CROWELL.

Main Street Modernizing in Missouri

Kansas City, Missouri.

To the Editor:

In reading your November issue, I have been very much impressed by Mr. Dunn's editorial and the large amount of space devoted in your magazine to the building of new homes and the modernization of old ones. I have been particularly interested in the references that have been made to the problem of reviving building in the smaller towns and on the farms. Apparently, half of our population is located in these places.

I thought you might be interested in a plan that we are attempting to work out in Missouri to partially solve this situation. We are of the opinion that most of the difficulty can be attributed to the looks of the small towns and trading centers throughout the country. Almost universally the buildings on the main streets of these places are relics of the "Gay Nineties," and it is rather difficult to expect a wide swing in public sentiment in improving home and farm properties until such time as Main Street sets the pattern. There are more than two million of such buildings in the country and 80% to 90% of them are in need of structural or surface repairs. If an average of five hundred dollars were spent upon each one of them, the resulting market would be somewhere between eight hundred and nine hundred million dollars.

Is there any more promising market in the world for architects, contractors, wholesalers, and manufacturers, not to mention the absorption of labor that would follow any extensive movement to modernize Main Street?

By separate mail I am sending you some of the literature that we have sent out on this subject. More than two hundred newspapers in the state of Missouri have carried the advertisement, "Who Owns Main Street."

Being a red hot advocate of the needs of Main Street, I believe that it would be a subject which would interest your readers very much. I have a great deal of data which I can send you on the subject, and also a number of cuts illustrating "before and after" views of business building modernization. Anticipating your question as to where this plan is being tried out in Missouri, there is no town that has definitely adopted the plan, but we anticipate within a very short time that at least one town will definitely adopt the plan and possibly several others will follow later.

F. T. BROWN,
Chairman, Better Housing Committee.

Customers Like Small House Plans

Fargo, North Dakota.

To the Editor:

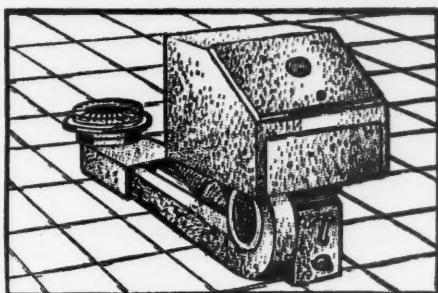
We think your idea of supplying the dealers with a low-cost home plan service in your magazine each month is a very fine one. Every month we have many of our customers asking us if we have any plans of small houses and it ties up with our business nicely.

It is true that we can buy plan books but somehow getting new plans in a monthly magazine makes the customer feel that the

(Continued to page 68)

INSTALL A

**PEERLESS
AUTO-FYRE
COAL STOKER**

*Made in Four Sizes*

Manufactured and guaranteed by the makers of PEERLESS dome dampers, ash traps, ash pit doors, coal windows and other building specialties.

Write for Literature

**Peerless Manufacturing Co.
Louisville, Kentucky
ESTABLISHED 1884**

TIMBERTEX SIDINGS
Job Producers • Profit Makers



NO PROPERTY owner you contact can ignore the amazing sales features of RU-BER-OID Eternit Timbertex Asbestos-Cement Sidings. These modernizing leaders have the charm and beauty of weathered cypress. They are rot-proof, age-enduring, termite-defying, fire-proof, and never require painting or staining.

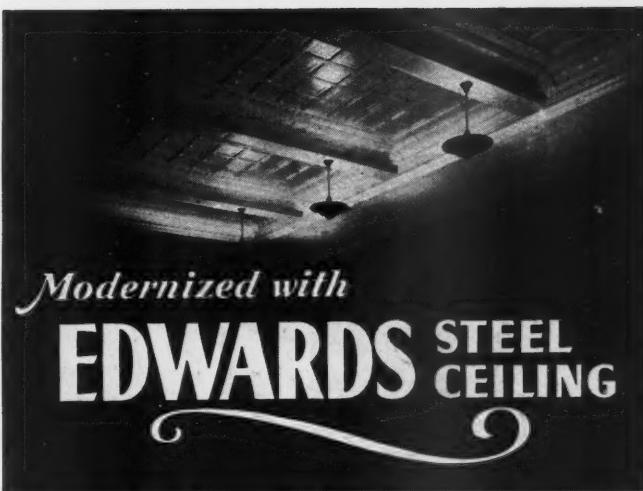
Over old clapboards, wood shingles or stucco side walls, they eliminate upkeep expense, reduce fuel bills, and permanently beautify exteriors. Use these RU-BER-OID business-getters to capture more modernizing work. Write for

FREE

free folders and full information.

The RUBEROID Co.
ROOFING AND BUILDING PRODUCTS

Executive Offices: 500 Fifth Avenue, New York, N.Y.

*Modernized with*

**EDWARDS STEEL
CEILING**

There are plenty of prospects for installations like the above right in your community. The Government campaign for "Modernizing Main Street" has made merchants realize that their stores must be attractive, fire-resisting, light and spotlessly clean, if they are to meet competition. Edwards Steel Ceilings accomplish this without interfering with the normal activities of the occupants. The work is very profitable, especially during the winter when outside work is slack.

Write for Catalog No. 180 and send measurements of your next ceiling prospect for estimate.

THE EDWARDS MANUFACTURING COMPANY
542-562 Eggleston Ave. Cincinnati, Ohio

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The American Floor Surfacing Machine Co.
511 So. St. Clair St. Toledo, Ohio

Letters Dept. (Continued from page 66)

latest ideas are incorporated and I think that if your plans could include up to date and up to the minute ideas that are being carried out in different sections of the country, it would be more valuable than the ordinary standard plan put out in most of the books.

Occasionally we have heard architects complaining about plan service put out by lumber yards but we feel that there are not very many large houses built from stock plans and as far as the average home owner is concerned, it simply gives him a means of expressing to his architect styles and types that he would like to have, and, as for the small houses that are built, they could in no way interfere with the architects because they themselves do not care to draw plans for very moderate homes.

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To the Editor:

It just occurred to me that possibly some of your readers, particularly manufacturers and building supply dealers, might be interested in some of the trials and tribulations of an inexperienced home builder when in the market for ideas and supplies. And if you do not consider the following right down slanderous, I shall appreciate it if you will insert it in the columns of your next issue for the benefit of manufacturer, dealer and builder.

About late August of this year I sold a home we had owned and occupied for some twenty years; and as we had always cherished a desire to build a home according to our own ideas and purse, we purchased a lot in the best residential district of our little city of 27,000 souls, had an architect of long personal friendship use up steen reams of drawing paper in trying to satisfy our cravings in a suitable plan, and was advised by him to have several contractors figure the construction as a complete job; then have several sub contractors figure plumbing, wiring, heating, etc. separately and compare same to allowances shown by general contractors; then to look into material costs (of which he had given us a complete list) and have labor figured as a separate contract, etc., etc., and that it was possible that we might be able to save a thousand or two dollars; all of which we found to be good advice.

So in making the rounds of material dealers, plumbing supply houses, heating contractors and the like, it occurred to me to visit one wholesale plumbing and heating supply house whom I knew to have a display of such things not to be found in any of the retail houses, and get an idea of models, prices, etc.; although I knew that I would, in all probability, have to make any actual purchases through some local retail plumber.

Upon entering the establishment's office lobby a young man asked rather curtly "what do you want?" I replied that I would like to see some bath room fixtures, kitchen sinks (both porcelain and Monel metal) possibly a heating plant and what have you; he asked "what do you want to pay for them?" and I replied "You will have to help me make up my mind on that score"; he then said "there is a display room in there, go in and help yourself" and after being in the room about a half hour alone, he arrived and said "How you getting along"? "Pretty good maybe, what are the prices of some of these fixtures"? "Who is your contractor?" "I have none as yet. I might build with contract labor and purchase the material, but of course realize will have to buy your fixtures through a retail plumber." Salesman—"Well that idea isn't so hot, not long ago a man tried that here, and ordered some fixtures from here, and the first thing we knew he was out of money and couldn't pay his bills." "Well my friend," I replied, "I didn't come in to talk terms, but to see what you had and learn something of prices; who is the manager here?" Salesman—"He isn't in, I just work here." Builder: "I thought so; here is my card, please give it to the manager and tell him I called, and if he is interested in supplying me some building supply information to drop in to see me." Salesman—"I will give it to him but I can tell you right now he isn't coming to see you."

I finally contracted the house complete, without heat (which was contracted privately) and when the contractor mentioned that he had figured "Rosier than Rosier" plumbing supplies, I informed him that I would build a Chic Sale "specialist" in the back yard and use it the rest of my life before I would allow one piece of their fixtures to go into my home.

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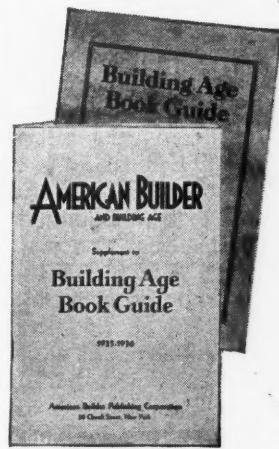
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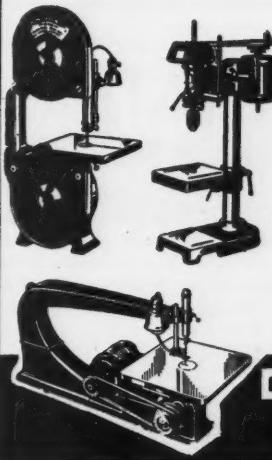
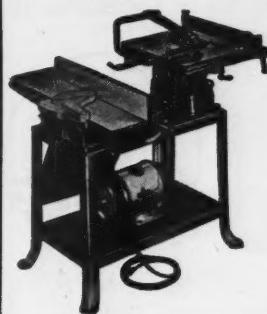
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Give us your problems and let our engineers help you. Full descriptive literature on request.

Basement and First Floor Methods

(Continued from page 49)

This type of wall and floor construction is very desirable where the finish grade level is only a few inches below the floor level as in bungalows of the "squatty" type. If, however, the grade level is less than 16 inches below the finish floor level the ends of all joists and outlooks should be treated with a thorough dipping of creosote before being placed in position. However, in all of our experience with this system of construction, we have never met with any trouble whatever and seldom if ever have we treated the ends of the joists where same are bedded in the concrete.

After joists are all in place the rough floor is laid of 1 x 6 common square edged boards laid diagonally. The 2 x 4 top sill should be accurately placed and temporarily nailed down to form a guide for the ends of these floor boards, and when the time comes for pouring the concrete these 2 x 4s may be removed after identifying marks are placed on them to aid in replacing after water-table is finished off.

This rough floor affords a fine runaway to wheel concrete over while the pouring of concrete is done. If the job is a large one and it is planned to pour the entire wall in one operation (which we always do) two mixers may be employed and almost any number of wheelers can work by making an "in" runway from the mixers to the floor and an "out" runway at some convenient point for the empty barrows. With this method as many as a half-dozen pouring points may be used at one time.

Easy to Protect in Winter

In a great many instances a job is done in winter weather and with this type of construction it is quite easy to protect the poured concrete with a covering of hay, and if necessary, stoves or other heating devices can be placed in the basement rooms and a light covering of hay all over the floor area will do wonders in holding the heat so generated.

The next day after pouring the concrete the 2 x 4 top sills can be replaced and the outside wall studding erected. On many of our jobs we have started to strip the exterior forms the second day after pouring in order to use up the 1 x 6 dressed and matched lumber as sheathing and on the third or fourth day the interior forms can be removed. In this manner no delay is encountered in starting the framework and the materials from the forms are available to work into the building.

It will be noted that there is a 1 x 2 "shim" under each joist or outlook. Sometimes we use a 2 x 2 instead which affords enough play room after removal to allow the top plates to be removed without trouble of "pinching" due to swelling of the form lumber. We have found that it pays to use the right size nails in building forms such as we use. We never use a nail in the boarding larger than a four penny common and we confine the nailing almost entirely to "face nailing."

It will be noted that a little "headwork" used in nailing the form boards at the corners will pay big dividends when it comes time to strip.

A seven foot "telephone" bar is used to cut the tie wires that are below grade. This bar should have a "duck bill" shaped cutting edge and should be sharp. It is rather a surprise to anyone who has been in the habit of using even a six penny nail in the erection of the form boards to see how easily the 2 x 4 form studs can be pried away from the boards when a four penny nail is used instead of some larger size.

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110—Surveying Instruments—"How to Lay Out Building Lots Accurately," a helpful little pamphlet showing the use of the Level-Transit in laying out lot and house. Data on measuring angles, distances and lot line measurements.—DAVID WHITE CO., Inc., 315 Court St., Milwaukee, Wis.

111—Insulating Plaster Base—Bulletins Nos. 1 and 2 describe the new Milcor Silvercote insulating plaster base; combines the principles of a reflective insulation with a metal lath plaster base. Comparative examples of insulating value of this new product in various types of construction are shown.—MILCOR STEEL CO., Milwaukee, Wis.

112—Wall Materials—"Metallation," an interesting catalog describing Reynolds bright metal insulation, Ecod Fabric, the insulating plaster and stucco board, and decorative insulating wallcovering. This attractive booklet is made up with covers of mirror-like Metallation and describes technical details of installing modern wall materials throughout the house.—REYNOLDS CORP., 19 Rector St., New York City.

113—Sheet Steel Construction—A new 58-page book entitled "Sheet Steel Building Materials," with useful data on unit steel and metal roofing, including a discussion of roof pitches giving data for every day use.—EDWARDS MANUFACTURING CO., Cincinnati, O.

114—Colored Concrete—Specifications and details for the use of HiBlak, the emulsified carbon black used to achieve attractive dark colors in concrete. Advantages of dark colored sidewalks, drives, porches and architectural details are described.—BINNEY & SMITH CO., 41 E. 42nd St., New York City.

115—Decorative Insulating Board—Booklet describing the decorative effects to be achieved with Fir-Tex insulating board, de-

scribing its use in home modernizing and in making modern attics, basements and living quarters. Descriptive details of insulating and decorative properties of Fir-Tex.—FIR-TEX INSULATING BOARD CO., Portland, Ore.

heating service.—AMERICAN RADIATOR CO., New York City.

120—Steel Furnaces—A large 30-page catalog describing the steel furnaces, oil-burning furnace and air conditioning equipment of the Dowagiac line. Of especial interest is the jointless steel furnace built particularly for oil burners.—DOWAGIAC STEEL FURNACE CO., Dowagiac, Mich.

121—Blowers and Air Conditioners—Details of the Furblo blowers and Fairweather air conditioners which bring a new type of simplified, inexpensive warm air heating. Catalog includes extensive technical installation data and the installation code of the National Warm Air Heating Association for residential work.—FURBLO CO., Hermansville, Mich.

SPECIALTIES AND HOME EQUIPMENT

122—Float-Over Doors—Descriptive and installation details of the Cornell line of Float-Over doors showing necessary dimensions and recommended construction methods for installing overhead type doors.—CORNELL IRON WORKS, Inc., Long Island City, N.Y.

123—Shower Bath Stalls—Data sheets describing the J-30 Junior shower bath stalls which are low in cost and easily installed. These stalls are of all-steel construction and are especially adaptable for the low cost homes and other structures to eliminate expensive tile work.—ELKAY MANUFACTURING CO., 4704 Arthington St., Chicago, Ill.

124—Ventilating Fans—"Home Ventilation Is Now a Necessity" is the convincing title of this folder describing built-in ventilating fans for the kitchen, basement or other rooms of the modern home. Dimensional and installation details for home ventilating units are given.—BUFFALO FORGE CO., Buffalo, N.Y.

125—Mechanical Servants—"A Story Dedicated to the Modern Home" is the title of this well prepared booklet describing dumb waiters, fuel lifts, trunk lifts, individual elevators and other "mechanical servants" for the modern home. How the builder can make his houses more saleable by eliminating labor is told.—SEDGWICK MACHINE WORKS, 150 W. 15th St., New York City.

126—Plug-In Strips—A new brochure describing the National Plug-In Strip and giving excellently drawn construction details for this modern electrical wiring device that permits plugging in of electrical equipment anywhere along the walls of a room. A helpful folder for builders who wish to make their homes 100 per cent electrically modern.—NATIONAL ELECTRIC PRODUCTS CORP., Pittsburgh, Pa.

HEATING AND AIR CONDITIONING

119—Low Cost Arco Boiler—"No. 11 Arco Oil Burning Boiler for the Smaller Home"; this attractive colorful 8-page booklet describes the new boiler designed especially for the smaller home. Installation and engineering details are set forth. Of unusual interest to builders because of many scientific heating improvements brought to low cost homes in connection with complete

(December, 1935)

American Builder,
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1935.